NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

PUBLIC HEALTH SPECIALIZATIONS AND EDUCATION NEEDS TO SUPPORT HOMELAND SECURITY

by

David C. Landguth

March 2006

Thesis Advisor:	Anke Richter
Second Reader:	Fabian Mihelic

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.			
1. AGENCY USE ONLY ***(Leave blank)***	**2. REPORT DATE** March 2006	**3. REPORT TYPE AND DATES COVERED** Master's Thesis	
4. TITLE AND SUBTITLE: Public Health Specializations and Education Needs to Support Homeland Security			**5. FUNDING NUMBERS**
6. AUTHOR(S) David C. Landguth			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			**12b. DISTRIBUTION CODE** **A**

13. ABSTRACT (maximum 200 words)

Understanding and identifying critical public health human capital needs and their appropriate knowledge base for homeland security is necessary to help our Nation to prepare for and respond to acts of terrorism and natural disasters. Understanding what deficiencies exist by specializations and identifying an appropriate knowledge base for these individuals is necessary to meet the future force requirements to support homeland security.

Personal interviews were conducted with 24 individuals throughout Tennessee and various components of the federal government. This was done to discern what these professionals believe are the necessary specializations to respond to homeland security mandates and the education these specialists needed to discharge their duties. For this study, public health was defined as: any individuals responsible for safeguarding and enhancing the health of the community in relation to homeland security. This is consistent with Dennis Raphael's definition which defined public health as "the science and art of preventing disease, prolonging life and promoting the health of the population through organized efforts of society"[1]. The results of this study may help aid policymakers to attract, train, retrain and retain the appropriate cadre of professionals necessary to support the public health mission relating to homeland security.

14. SUBJECT TERMS Public Health, Education, Terrorism, Prevention, Healthcare, Homeland Security			**15. NUMBER OF PAGES** 195
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UL

NSN 7540-01-280-5500 Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

[1] Dennis Raphael, PhD, C. Psych, "Public Health Responses to Health Inequalities," *Canadian Journal of Public Health* 89 (Nov/Dec 1998): 380-381.

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

PUBLIC HEALTH SPECIALIZATIONS AND EDUCATION NEEDS TO SUPPORT HOMELAND SECURITY

David C. Landguth
Master of Public Health, The University of Tennessee, 1990

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
March 2006**

Author: David C. Landguth

Approved by: Dr. Anke Richter

Dr. Fabian Mihelic
Second Reader

Douglas Porch, Ph.D.
Chairman, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

Understanding and identifying critical public health human capital needs and their appropriate knowledge base for homeland security is necessary to help our Nation to prepare for and respond to acts of terrorism and natural disasters. Understanding what deficiencies exist by specializations and identifying an appropriate knowledge base for these individuals is necessary to meet the future force requirements to support homeland security.

Personal interviews were conducted with 24 individuals throughout Tennessee and various components of the federal government. This was done to discern what the collective whole of these professionals believe are the necessary specializations to respond to homeland security mandates and the education these specialists need to discharge their public health duties. For this study, public health was defined as: individuals (private, volunteers and those funded by a government entity) responsible for safeguarding and enhancing the health of the community in relation to homeland security. This is consistent with Dennis Raphael's definition which defined public health as "the science and art of preventing disease, prolonging life and promoting the health of the population through organized efforts of society"[2]. The results of this study may help aid policymakers to attract, train, retrain and retain the appropriate cadre of professionals necessary to support the public health mission relating to homeland security.

[2] Dennis Raphael, PhD, C. Psych, "Public Health Responses to Health Inequalities," *Canadian Journal of Public Health* 89 (Nov/Dec 1998): 380-381.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

LIST OF FIGURES

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

The Homeland Security Leadership Program, sponsored by the Office for Domestic Preparedness and delivered via staff and subject matter experts affiliated with the Naval Postgraduate School, has been the highlight of my educational and professional experiences. The enthusiasm exuded by Chris Bellavita and the humor of Bill Pelfrey will provide everlasting memories of this spectacular trek I made with members of the 0402 and 0401 cohorts. The networking afforded by such a diverse group of individuals never left one wondering where we find the information for any of our questions. I greatly appreciate the camaraderie developed through this eighteen month program from all of my 0401/0402 cohort classmates.

My thesis advisor, Dr. Anke Richter, deserves a great deal of credit. Keeping me focused, providing substantive input and direction and coaching me along to completion was greatly appreciated. Dr. Matt Mihelic, my second reader, also provided significant input and guidance regarding the design of my thesis. His input was invaluable. My immediate supervisors, Dr. Robin White, Major General (retired) John Doesburg and General (retired) Dr. Frank Akers deserve my thanks for the support and encouragement they provided while away from my normal duties. I also owe a special debt of gratitude to Major General (retired) Jerry Humble, former Director of the Tennessee Office of Homeland Security, whose belief in me and my abilities led to his recommending me to apply for and attend the Center for Homeland Defense and Security's Leadership Development Program at the Naval Postgraduate School.

The staff and faculty of the Naval Postgraduate School are dedicated to their mission of educating future leaders in homeland security. Their attention to detail, educational acumen and interest in our personal views and experiences enhanced our collective learning experience. Finally, I greatly appreciate the personal time devoted by all persons interviewed in the course of developing this thesis. My hopes are that the findings from my thesis will provide insights to gaps and needs relating to public health specializations and educational needs to support homeland security. Focusing on

identifying our future public health cadre of homeland security leaders and equipping them with the appropriate education will lead to a more secure nation.

I. INTRODUCTION

A. PUBLIC HEALTH AND HOMELAND SECURITY

This thesis will focus on the identification of critical public health human capital needs and their appropriate knowledge base for homeland security. It is critical that we clearly understand what these public health human capital needs are in relation to homeland security. Developing an understanding of what deficiencies exist by specializations and identifying an appropriate knowledge base for these individuals is necessary to meet the future force requirements to support homeland security. Of primary importance is the question of how to prepare our future public health leaders to support the homeland security mission. This will serve as a foundation to our understanding so policies and plans can be made to educate, recruit, retain, maintain and retrain the appropriate critical public health human professionals.

B. EXISTING AGENCIES

The creation of the Department of Homeland Security (DHS) is the most significant transformation of the U.S. government since 1947, when Harry S. Truman merged the various branches of the U.S. Armed Forces into the Department of Defense to better coordinate the Nation's defense against military threats. DHS represents a similar consolidation, both in style and substance. In the aftermath of the terrorist attacks against America on September 11, 2001, President George W. Bush combined 22 previously disparate domestic agencies into one department to protect the nation against threats to the homeland. Despite this transformation, the United States is extremely vulnerable from a public health preparedness perspective. The public health system within the United States is critical to our Nation’s health and security. Public health preparedness prior to September 11, 2001 focused on responding to natural disasters and preventive immunization programs. Little public health preparedness efforts and funding were devoted to education and outreach to the public and healthcare community in relation to homeland security.

The dual nature of public health preparedness and homeland security is that the two can not be mutually exclusive. Federal, state, local, tribal government, private sector

and international funding for public health preparedness has metastasized to incredible numbers following the atrocities inflicted by al Qaeda on the United States. Our experience with responding to the Anthrax attacks exposed our need to strengthen our biodefense response capabilities. The surge capacities of hospitals throughout the United States are incapable of managing mass casualties. Erik Noji, MD, MPH, Special Assistant to the Surgeon General for Homeland Security and a member of the United States Public Health Service has expressed his personal concerns regarding surge capacity. In a previous capacity as the director of quality assurance for Johns Hopkins emergency department he indicated that their 1,200 bed hospital could only handle two chemically contaminated patients at a time.[3]

The Department of Health and Human Services (DHHS) plays a pivotal role in providing for the public health and medical services for the people of the United States. The National Response Plan was developed to provide "a concerted national effort to prevent terrorist attacks within the United States; reduce America's vulnerability to terrorism, major disasters, and other emergencies; and minimize the damage and recover from attacks, major disasters, and other emergencies that occur."[4]

As such, the "National Response Plan" identifies the critical functions to be performed by DHHS in the event of a major terrorist event. The Emergency Support Function (ESF) # 8, Public Health and Medical Services, identifies the Secretary of the Department of Health and Human Services to function as the coordinator, with primary assistance being provided via the Assistant Secretary for Public Health Emergency Preparedness, to assume the primary role for public health and medical services in the event of an Incidence of National Significance.[5] These services provided via ESF-8 are intended to augment assistance to State, local and tribal governments in the event they are overwhelmed via an Incident of National Significance. The federal resources associated with ESF-8 may be obtained through the Robert T. Stafford Act or via the memorandum

[3] Erik K. Noji, MD, MPH, "Creating a Health Care Agenda for the Department of Homeland Security," *Supplement to Managed Care* 12, no. 11 (November 2003): 10.

[4] Department of Homeland Security, *National Response Plan* (Washington, D.C.: Department of Homeland Security), 1.

[5] Ibid., ESF#8-1.

for Federal mutual aid that is identified in the Financial Management Support Annex contained within the National Response Plan. The primary areas of assistance that DHHS provides are:

1. Assessing public health/medical needs which includes behavioral health needs;
2. Conducting public health surveillance;
3. Providing medical personnel; and
4. Providing needed medical equipment and supplies.

The Centers for Disease Control and Prevention (CDC) and the United States Public Health Service, as elements of DHHS, are mandated to provide significant contributions to preparing for, responding to and recovering from a terrorist event. Both the CDC and the United States Public Health Service maintain subject matter experts that may provide valuable insights to critical public health human capital needs and their appropriate knowledge base for homeland security. Additional backgrounds regarding these organizations are provided in the section that follows. There are numerous other elements of the Department of Health and Human Services and other supporting Agencies that may provide assistance to the Department of Health and Human Services in relation to ESF-8. These supporting Agencies consist of: Departments of Agriculture, Defense, Energy, Homeland Security, Interior, Justice, Labor, State, Transportation, Veterans Affairs, the Environmental Protection Agency, General Services Administration, United States Agency for International Development, United States Postal Service, and the American Red Cross. The roles and responsibilities of these support partners to the Department of Health and Human Services and all the facets of the Department of Health and Human Services is beyond the scope of this limited research. The identification of these supporting partners have been provided to acquaint the reader with the complexity of the ESF-8 role and provide some background regarding two of the key elements from the Department of Health and Human Services that provide support to Homeland Security.

1. Centers for Disease Control (CDC)

Fifty years ago, the CDC was established as the Communicable Disease Center, part of the United States Public Health Service.[6] The CDC's combined mission with the Agency for Toxic Substances and Disease Registry (ATSDR) require that they "prevent death, disability, disease and injury associated with urgent health threats by improving preparedness of the public health system, the health care delivery system and the public through excellence in science and services".[7]

Today, "the Centers for Disease Control and Prevention (CDC) is recognized as the lead federal agency for protecting the health and safety of people - at home and abroad, providing credible information to enhance health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States."8 In this role, CDC has developed and provides guidance relating to public health emergency preparedness and response. CDC operates the Health Alert Network (HAN), part of the Public Health Information Network (PHIN). The HAN has been designed to provide timely access to emergent health information around the clock. Additionally they provide technical specialists that can offer procedures to deal with public health preparedness and response.9 There are vast resources contained within CDC that provide dual-use benefits to homeland security whether the Incidence of National Significance is a natural disaster or terrorism in etiology. The following list, while not comprehensive, identifies many of the resources available to support homeland security:

1. CDC Public Health Emergency Response Guide for State, Local and Tribal Public Health Directors (http://www.bt.cdc.gov/planning/responseguide.asp);

[6] Department of Health and Human Services, "A National Public Health Strategy for Terrorism Preparedness and Response 2003-2008," (Washington, D.C.: Centers for Disease Control and Prevention, Agency for Toxic Substances Disease Registry), Version March 2004, 8.

[7] Ibid., i.

[8] Centers for Disease Control and Prevention, "About CDC," 2004, cited 20 December 2004, available from http://www.cdc.gov/aboutcdc.htm.

[9] Centers for Disease Control and Prevention, "Health Alert Network," Health Alert Network, 2005, cited 27 December 2005, available from http://www.phppo.cdc.gov/han/HANFactSheet-1.ppt.

2. CDC Public Health Preparedness and Emergency Response (http://www.bt.cdc.gov/);
3. CDC Centers for Public Health Preparedness;
4. Public Health Preparedness and Response Capacity Inventories;
5. CDC Epidemic Information Exchange, Epi-X (http://www.cdc.gov/epix/);
6. Morbidity and Mortality Weekly Report (http://www.cdc.gov/mmwr/indexbt.html);
7. Epidemic Intelligence Service (http://www.cdc.gov/eis);
8. National Center for Infectious Diseases (http://www.cdc.gov/ncidod);
9. Strategic National Stockpile (http://www.bt.cdc.gov/stockpile/index.asp).

2. United States Public Health Service

The creation of United States Public Health Service Commissioned Corps is purported to be traced to an act in 1798 that was to provide medical services to sick and injured merchant seamen. The United States Public Health Service, Commissioned Corps, is one of the seven uniformed services. The Corps presently maintains a mere 6,000 officers, of whom approximately 1,300 are medical service officers. In the event of an Incidence of National Significance, these personnel can be deployed via the Secretary of Health and Human Services to augment State, local and tribal governments to provide necessary medical aid.

C. EXISTING TRAINING

Homeland Security and the funding associated with this mission have begun to influence programs in academic institutions. While many programs may mimic the Homeland Security program at the Naval Postgraduate School, the majority of these programs are presently designed to meet the homeland security needs of the law enforcement, fire and state homeland security management community. The special needs of medical experts (doctors, nurses, public health officers, hospital administration) are not well addressed in these programs. In addition, at present, there are no standards or professional consensus regarding how these programs are designed and delivered, nor requisites for a successful program.

D. LITERATURE REVIEW

There are numerous publications that discuss the issues relating to identifying appropriate specializations necessary to support the public health homeland security mission and the education of this future cadre of homeland security contributors. The literature review provided here is not intended to be comprehensive; rather it identifies several pre-existing works identifying the gaps and needs relating to public health's contribution to homeland security.

Unfortunately, there is much more bad news than good regarding our ability to provide trained and experienced human capital in the event of a public health emergency. Our Nation continues to face critical shortages from the nursing community. The Tennessee Hospital Association has indicated an alarming shortage of nurses and other health care professionals[10]. Their estimates indicate 5 percent of the nursing positions in Tennessee hospitals were unfilled in 1998. This rose to 8 percent in 1999, 9 percent in 2000 and greater than 10 percent by the beginning of 2002. Is has been estimated that Tennessee may have to import over 30,000 nurses to provide for services within the state by 2020.

Our immediate bioterrorism labor force gaps provide significant concerns.[11] The anthrax attack of 2001 did not instill confidence in the public in the capabilities and level of expertise of our federal servants from the Centers for Disease Control and Prevention. Only 60% of Americans felt that the Centers for Disease Control and Prevention would be able to provide us with the appropriate information to protect us from Anthrax.[12] This concern is well founded in that "42% of epidemiologists working in public health have no formal epidemiological training".[13] A 2002 report developed by the Institute of Medicine

---

[10] Dave Raiford, "Vandy, Lipscomb in discussions on joint nursing degree," *Nashville Business Journal*, December 27, 2002.

[11] Shelley A. Hearne and Laura M. Segal, "Leveraging The Nation's Anti-Bioterrorism Investments: Foundation Efforts To Ensure A Revitalized Public Health System," *Health Affairs* 22, no. 4 (July/August 2003): 231.

[12] John M. Colmers and Daniel M. Fox, "The Politics of Emergency Health Powers and the Isolation of Public Health," *American Journal of Public Health* 93, no. 3 (March 2003): 399.

[13] M.L. Boulton, R.A. Malouin, K. Hodge, and L. Robinson, "Assessment of the Epidemiological Capacity in State and Territorial Health Departments---United States, 2001," *Morbidity and Mortality Weekly Report* 52, no. 43 (October 31, 2003): 1049.

laid out public health challenges and provided recommendations for increased health education, research and practice.[14] Epidemiologists employed to conduct terrorism preparedness, infectious disease surveillance, public health worker and health-care provider training, increased by 132% from 366 to 848 personnel in a survey of 47 State Health Departments from 2001-2003.[15] Although the previous statistic may appear spectacular, it is a far cry from what is needed. Over half the State Health Departments have expressed concerns regarding the difficulty in hiring qualified epidemiologists from 2001-2003.[16] State hiring freezes continue to exacerbate the problem. These hiring freezes have been imposed due to the financial difficulties states are facing.[17] Core public health missions are also beginning to suffer due to the diversion of existing personnel that become involved with additional training, like smallpox preparedness.[18]

Recognizing this dilemma, the Council of State and Territorial Epidemiologists, along with Centers for Disease Control and Prevention and the Association of Schools of Public Health, recently launched an epidemiologist fellowship to increase the number of trained epidemiologists.[19] More opportunities, training programs and curricula are needed to improve the current and future capabilities of our Nation's epidemiologists.[20] The number of microbial threat preparedness experts is reported to be dangerously low as of 2003.[21] While these gaps in public health professionals are recognized, there is not a clear plan on how these people will be educated, recruited, funded and retained. How these professionals will specifically serve the public and their specific roles and responsibilities relating to homeland security is nonexistent within the literature

---

[14] *Who Will Keep the Public Healthy? Educating Public Health Professionals for the Twenty-first Century* (Washington, D.C.: Institute of Medicine).

[15] G. Shipp, J. Dickson, P. Quinlisk, and C. Lohff, "Terrorism Preparedness in State Health Departments---United States, 2001--2003," *Morbidity and Mortality Weekly* 52, no. 43 (October 31, 2003): 1051.

[16] Ibid.

[17] Ibid.

[18] Andrea B. Staiti, Aaron Katz, and John F. Hoadley, "Has Bioterrorism Preparedness Improved Public Health?" *Center for Studying Health System Change* 65 (July 2003): 3.

[19] Boulton et al., "Assessment," 1050.

[20] Shipp et al., "Terrorism Preparedness," 1052.

[21] Ibid.

reviewed. In an issue paper developed by RAND entitled "Are Local Health Responders Ready for Biological and Chemical Terrorism?" the authors believe that a serious flaw associated with our public health strategy for homeland security is a lack of integration with weapons of mass destruction preparedness and planning for response.[22]

Many have expressed their concerns relating to medical doctor shortages. Concurrently, many identify critical shortages of doctors and nurses working in rural areas of the country. The National Rural Health Association has indicated that one out of every ten doctors practice in rural areas which compose twenty-five percent of our nation's population[23]. In a report developed by CDC, "Public Health Infrastructure - A Status Report", CDC found that the United States public health infrastructure "is structurally weak in nearly every area."[24] The Institute of Medicine developed a similar report in 2003 that revealed we not only lacked a trained workforce but also lacked real-time surveillance and epidemiological systems.[25]

The "Targeted Capabilities List", developed by the U.S. Department of Homeland Security, identifies specific capabilities required, the critical tasks to be conducted, capability and performance measures[26]. This list was developed to address the requirements identified in Homeland Security Presidential Directive/HSPD-8 to aid in the development of a "capabilities-based planning approach to managing risk" [27]. Additionally, this document identifies whether the capability identified should be available from the federal, state, three levels of local communities, and tribal governments. This document suggests whether specific capabilities should be resident within each of these sectors of government or whether they should be available through

---

[22] Lois M. Davis and Janice C. Blanchard, *Are Local Health Responders Ready for Biological and Chemical Terrorism?* (Arlington, VA: RAND), 1-7, RAND, IP-221-OSD.

[23] Associated Press, "Rural Hospitals Face Doctor Shortages," *The Washington Post*, 27 December 2005.

[24] Centers for Disease Control and Prevention, *Public Health Infrastructure - A Status Report*. (Atlanta, Georgia: 2001).

[25] *The Future of the Public's Health in the 21st Century,* (Washington, D.C.: Institute of Medicine, 2003).

[26] *Target Capabilities List: Version 1.0* (Washington, D.C.: U.S. Department of Homeland Security, January 31, 2005).

[27] Ibid.

mutual aid agreements with other levels of government and/or the public and private sector. This document can serve as a very useful tool in identifying specific specializations that would be required to support different Emergency Support Functions, such as ESF-8 (Public Health and Medical Services), contained within the National Response Plan.

Another critical concern relating to public health specializations necessary to support homeland security is the rapidly aging state public health workforce. A report developed by the Association of State and Territorial Health Officials (ASTHO) provides grave statistics regarding the civil service recruitment and retention crisis we face within the public health community. In a survey they conducted with The Council of State Governments, the following statistics were collected from 37 state health agencies:

1. The average age of the state public health workforce is 46.6 years;
2. 45% of the state public health workforce will be eligible for retirement within five years;
3. Position vacancy rates are as high as 20% in several states;
4. The turnover rate of employees is as high as 14%[28].

Changes in the roles and responsibilities of public health to support the war on terrorism and become first receivers will certainly have an effect on our ability to continue to provide basic services should changes not be made now. It is critical that we invest in the appropriate human capital today. Public health nursing, epidemiologists, laboratory scientists and technicians and environmental health professionals are the specialists in most demand according to the ASTHO.

E. RESEARCH OBJECTIVE

The Bush Administration announced in 2004 a proposed transformation of the United States Public Health Service. The proposal calls for recruiting and retaining over 1,000 doctors, nurses, and health officers per year for the next several years. The ultimate goal of this transformation is for the United States Public Health Service to be a

[28] *State Public Health Employee Workforce Shortage Report: A Civil Service Recruitment and Retention Crisis* (Washington, D.C.: Association of State and Territorial Health Officials), ASTHO, 2004.

valuable resource to assist in times of natural disasters and terrorist events.[29] The United States Public Health Service plans to expand by 100% within the next few years. It is imperative to understand what policy changes are being made and yet to be proposed to better prepare these individuals to support the homeland security mission. The United States Public Health Service requires more than people. Obtaining more people alone is not good enough. It is imperative that they recruit appropriate personnel with necessary skills including the most needed specializations and training.

The Department of Health and Human Services, recognizing that States and the Federal government had significant gaps relating to Epidemiologists have since increased funding for the Federal government and States to hire Epidemiologists. Unfortunately, once funding was received and these organizations attempted to hire specialists like epidemiologists they found it was extremely difficult to find these specialists. Since the money provided was grant money, there was no professional security attached to these positions and the salaries were rarely competitive.[30] Many professionals will be hired within the next few years to fill these gaps relating to public health. It is imperative that we understand the type of educational background and experience they should maintain. Unfortunately, it appears that many of these people are not presently available and equipped with the knowledge to effectively support the public health mission of homeland security. This research intends to determine, via a limited sample population if the issues regarding understanding the specialists we need to support the public health mission of homeland security and the education that is necessary to perform this function has been resolved and or improved.

---

[29] "Bush seeks major boost for Public Health Service, Expanded corps of caregivers eyed for crisis," *Washington Globe*, February 12, 2004.

[30] Elin Gursky, *Progress and Peril Bioterrorism Preparedness Dollars and Public Health* (New York, New York: The Century Foundation, 2003), 32.

II. PLANNED RESEARCH

A. WHAT IS MISSING?

The shortage of trained public health servants capable of supporting prevention, mitigation, preparedness, response and recovery efforts is well known. This problem has been documented through journals, media articles, scientific studies, professional societies, the federal government, and state and local governments. However, there is no comprehensive study identifying all the critical public health expertise needs. Fragments of this knowledge base reside in various unconsolidated works.

B. CRITICAL QUESTIONS TO BE ANSWERED

The myriad of issues regarding our Nation's public health system, excluding our homeland security concerns, is astounding. Given the issues and limitations with the status quo, a comprehensive research program of the following topics will ensure that we are better prepared to meet the future public health homeland security needs:

1. Identify the specializations of critical public health professionals needed to support the homeland security mission; and
2. Determining what these professionals should know in support of the homeland security mission.

THIS PAGE INTENTIONALLY LEFT BLANK

III. SURVEY DESIGN

A. FEDERAL, STATE AND RURAL ANALYSIS

It is anticipated that public health professional needs and associated knowledge base as viewed by the federal government may be different from those needs from a state or a local/rural perspective. In order to understand and report these needs, three distinct groups/areas will be sampled/analyzed; federal, metropolitan and rural. A detailed, consistent survey tool/questionnaire was developed to guide and direct discussions. Input to the development of these survey tools was accomplished through consultation with the Tennessee Office of Homeland Security, the Director of Homeland Security Studies from the University of Tennessee, Knoxville, Graduate School of Medicine and the Executive Director of the Secretary's Council on Public Health Preparedness, Department of Health and Human Services. Additionally, information was obtained through personal interviews with the Department of Health and Human Services personnel from the United States Public Health Service and from representatives of the Departments of Homeland Security and Energy and the United States Postal Service.

The State of Tennessee represents a unique environment in which to conduct research from a metropolitan and rural perspective. Tennessee was divided into three regions, consistent with the original three geographic "Grand Divisions". As such, the Tennessee Department of Homeland Security Director had further subdivided the state into eleven distinct homeland security districts. There are four metropolitan areas within the state (Chattanooga, Knoxville, Memphis and Nashville) that served to represent four metropolitan research areas for this thesis. Additionally, Tennessee is quite rural. The seven remaining districts served as the rural research areas for this thesis. Tennessee is a state that spans approximately 500 miles from east to west. From a logistical standpoint personal interviews with all interviewees became impractical and/or impossible. Therefore, many interviews were conducted via the phone. All personal identifying qualifications have been withheld from all supporting interview documentation.

Personal interviews were conducted with personnel from state public health departments and homeland security personnel as well as representatives from each of

Tennessee's four metropolitan districts to understand those needs from an urban/metropolitan perspective. These interviews were conducted with personnel from within the State of Tennessee by coordinating these requests with the State of Tennessee Office of Homeland Security, members of the Tennessee Homeland Security Consortium, personal contacts from within Tennessee's Public Health Departments, and members of the Department of Homeland Security's Regional Technology Integration program, which recently finalized their evaluation of public health preparedness of Memphis, Tennessee. Personnel interviewed within each of the four metropolitan districts consisted of a medical doctor, nurse and a representative from the public health department.

Finally, family practitioners and/or clinics from rural areas were consulted. These interview candidates were proposed and approved by my second reader, the University of Tennessee Graduate School of Medicine Director of Homeland Security Studies, prior to interviews being scheduled and conducted. Personnel to be interviewed within three of the remaining seven districts consisted of a medical doctor, a nurse and a representative from the public health department. Additional information was collected via e-mail correspondence and/or telephone correspondence.

B. INTERVIEW PROCEDURES

The following procedures were utilized to conduct all interviews associated with this thesis. To insure consistency, each interview was conducted by an individual researcher, David Landguth. This section is arranged in chronological order in which the interview activity was performed.

1. Pre-Test Interviews

Two pre-test interviews were conducted with control subject interviewees who have a broad background in public health and its relation to homeland security. The procedures for these interviews were in strict adherence to the procedures for all interviewees. The purpose of the pre-test interviews was to practice conducting the interviews prior to conducting formal interviews.

There were several outcomes anticipated from the pre-test interviews. A post pre-interview assessment identifying strengths and suggestions for improvement was

provided by each pre-test interviewee test subject. All results associated with the assessment are identified in the data analysis section of this thesis.

2. Identification of Potential Interviewees

At a minimum, personal interviews were to be conducted of persons from seven of the eleven homeland security districts within the State of Tennessee and with representatives of the federal government. Figure 1 depicts the eleven Tennessee homeland security districts.

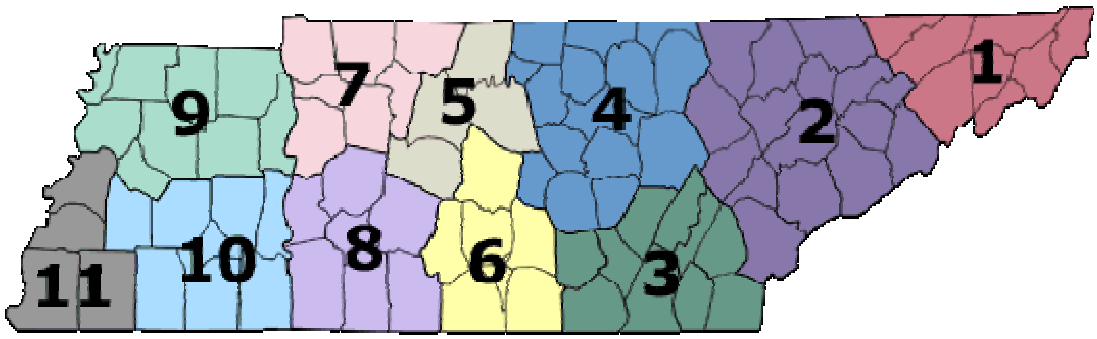

Figure 1. Tennessee Homeland Security Districts[31]

Three distinct types of persons were interviewed from each of Tennessee's homeland security districts: a medical doctor, a nurse and a public health representative from a public health department. Additionally, in order to ensure some consistency of interviewee knowledge and background relating to homeland security and public health, the interviewees served in a capacity (private, volunteers or those funded by a government entity) responsible for safeguarding and enhancing the health of the community in relation to homeland security.

Within the eleven homeland security districts exists four major metropolitan areas: Chattanooga, Knoxville, Nashville and Memphis Tennessee. Interviews conducted with interviewees from these major metropolitan areas were part of the seven homeland

[31] State of Tennessee, "TN/HSEP (Tennessee Homeland Security Exercise Program)," 2005, cited 5 January 2006, available from www.tennesseeexercise.com. ..map_districts.gif.

security districts interviewed. This allowed for comparison of responses from the four major metropolitan areas to the three local/rural homeland security districts.

Interviews were conducted with four persons from the federal government. As with those interviewees identified within the State of Tennessee, these individuals presently served in a capacity where they are responsible for safeguarding and enhancing the health of the Nation in relation to homeland security. Personnel were interviewed from the Departments of Energy, Health and Human Services, Homeland Security and the United States Postal Service.

3. Contacting Potential Interviewees and Soliciting Participation

The initial contact with potential interviewees was accomplished via telephone. A consistent verbal message was delivered to potential interviewees. A copy of the script is provided as Appendix A.

4. Assurance of Anonymity

As a condition of this research, all research participants were assured complete anonymity. No record of their name or their specific affiliation is provided in the analysis section of this thesis or any other future work that may result from the findings of this research. A consent form was initially collected from each research participant until specific guidance indicating they were not required was provided by the Naval Postgraduate School. A copy of the consent form package is provided as Appendix B.

5. Interview Scheduling

Face-to-face interviews, to the extent possible, were scheduled for those interviewees that agreed to participate via initial solicitation calls for support. The logistics of scheduling face to face interviews throughout the state based upon geographic distances required several interviews to be conducted via the telephone. A copy of the questions to be asked was forwarded to each interviewee electronically. A copy of the questionnaire is provided as Appendix C1.

6. Interview Documentation

This procedure applied to all interview information collected. Accountability for the information began with initial contact with potential interviewees through the completion of the research project. Survey subject identification begins with an 8-

character description (control subject identification), which is written in indelible ink on the top of each page of the "Public Health Specializations and Education Needs to Support Homeland Security Questionnaire" (Appendix C2).

7. Interviewee Identification System

Each interviewee was identified according to the following description (A = alphabetic, N = numeric):

NNAANNAA.

Where:

NN = Tennessee homeland security district, all federal interviewees were identified by 99. Pre-test subjects are identified by 00.

AA = MD for medical doctor, NR for nurse, PH for public health department or GV for federal government.

NN = Interviewee subject number, numbered sequentially from 01 – NN.

AA = LO for local, MT for metropolitan and FG for federal government.

For example, 01MD04LO would be an individual interviewed from Tennessee's homeland security district 01, a medical doctor, from a local area and the 4th individual interviewed in the research.

8. Recordkeeping

Interviewee records were completed at the time each interview was conducted. Records were maintained in a single loose-leaf notebook. Results from each of the interviews are provided in the data analysis section of this thesis. To ensure complete anonymity of research participants, consent forms that would identify a specific interviewee are not provided.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. RESULTS

Twenty-four interviews of twenty-seven planned interviews (89%) were conducted from May 2005 through October 2005. The three interviews that were not conducted included two nurses (from Tennessee Homeland Security Districts 5 and 6) from a metropolitan area, and one physician from Tennessee Homeland Security District 10 (a rural area of Tennessee). The reason for the departure from the originally intended number of interviews can be attributed to the following:

1. Difficulty in identifying an appropriate individual to interview in the private sector that met the defined qualifications identified in the methods section as "these individuals need to have a present role and/or experience relating to homeland security/emergency response." Advice regarding potential interviewees was provided via personal contacts, the Tennessee Office of Homeland Security, the University of Tennessee Graduate School of Medicine, The University of Tennessee School of Nursing and Public Health Departments throughout Tennessee.
2. Willingness to participate as an anonymous interview subject.
3. Competition with their personal time or time at work. The interview was pre-communicated to all potential subjects as requiring forty-five minutes of their time.
4. Competing preparation for homeland security drills.
5. Potential implications associated with time available due to increased staff loads in the response efforts associated with Hurricane Katrina.

A. COVERAGE OF TENNESSEE

A cross-section of interviewees from major metropolitan and local health departments as well as private practice physicians and nurses from major metropolitan and rural areas throughout Tennessee provided input to this study. One of the pretest interviewees is a physician from a major metropolitan area of Tennessee also. For the purposes of this study interviews were conducted from Tennessee Homeland Security

Districts 1,2,3,5,6,10 and 11. Districts 2, 3, 5, and 11 represented major metropolitan areas. Districts 1, 6, and 10 represented rural areas. A total of seven interviews out of seven planned interviews were conducted with a single representative from the public health departments from each of these homeland security districts representing a 100% response rate. Eleven of fourteen planned interviews, representing a 79% response rate were conducted of the combined nurses and physicians from within the seven homeland security districts. Two of three planned interviews, representing a 67% response rate, were conducted with nurses from the private sector within rural homeland security districts. Three of four planned interviews, representing a 75% response rate were conducted with nurses from the private sector representing major metropolitan homeland security districts. Two of three planned interviews, representing a 67% response rate, were conducted with physicians from the private sector within rural homeland security districts. Four of four planned interviews, representing a 100% response rate were conducted with physicians from the private sector representing major metropolitan homeland security districts.

B. FEDERAL GOVERNMENT INTERVIEWEES

A cross section of interviewees from the federal government provided input to this study. Four of four planned interviews, representing a response rate of 100%, were conducted. A cross section of input from different aspects of the government was obtained from these interviewees. Interviewees represented the Department of Homeland Security, Department of Health and Human Services, United States Postal Service and the Department of Energy. To honor our commitment of anonymity, the specific offices these individuals support have not been identified.

C. INTERVIEW PROCESS

Public health was pre-defined for the purpose of this study in an e-mail sent to all interviewees prior to the interview and was also repeated to each interviewee prior to the interview being conducted. For the purposes of this study, public health was defined as: individuals (private, volunteers and those funded by a government entity) responsible for safeguarding and enhancing the health of the community in relation to homeland security. The intention of this definition was to define public health from the perceived perspective of the public. This is consistent with Dennis Raphael's definition which defined public

health as "the science and art of preventing disease, prolonging life and promoting the health of the population through organized efforts of society"[32].

A change was made to the initial methods defined for interviewing subjects upon receiving an Institutional Review Board waiver for this project. This is documented via a memorandum dated August 31, 2005 from the Naval Postgraduate Institutional Review Board Chair delivered via an e-mail intended for students enrolled in the Naval Postgraduate Homeland Security Program.[33] Participant consent forms were deemed unnecessary for personal interviews and were not collected from many of the interview participants.

D. PRE-TEST INTERVIEWS (RESULTS/RECOMMENDATIONS)

Pre-test interviews were conducted with two control subjects. These interviewees were very instrumental in providing recommendations and guidance regarding the pertinent questions posed, the structure and organization of the interview process and provided an opportunity to practice the interview to ensure the questions being posed could be answered in the time frame proposed for all interviewees. Originally, Figure 7 (Public Health Specializations and Education Needs to Support Homeland Security Questionnaire) was to be forwarded to all interviewee participants prior to conducting the interview. Both pre-test subjects suggested that the table would be fine for collecting the information during the interview but they suggested not sending the forms to the interviewees prior to the interview. The concern was that potential interviewees may be overwhelmed by the forms to record the data. Additionally, potential interviewees might believe they would be required to fill in the information prior to the interview. Both pre-test subjects thought this may provide a reason for interviewees to drop out even before the interview was conducted.

Eight questions were originally proposed to be asked of all interviewees. Both pre-test subjects believed this seemed excessive for people volunteering their time to be interviewed and suggested that the first three "primary questions" be provided to each interviewee prior to the interview being conducted. If time warranted and the interviewee

[32] Raphael, "Public Health Responses," 380-381.

[33] Lauren Wollman, "Homeland Security IRB Exemption," private email message to Naval Postgraduate Homeland Security Program Students, 31 August 2005.

was amenable to discussing the additional five questions once the initial three were answered, both pre-test subjects suggested asking each interviewee if they had some additional time in which these questions might be asked. Based upon the pre-test subject suggestions, the change was made. Both pre-test interviews were conducted in less than one-hour, at 55 minutes and 59 minutes respectively.

E. RESULTS SUMMARY

Responses have shed light on areas relating to specializations and education of those providing public health support to the homeland security mission that have improved significantly in the past four years. Additionally, there are areas relating to specific gaps in skills and education that this group of interviewees views as requiring improvement. In some cases, as will be identified in following sections, there is inconsistency between what public health and the federal government view as the most pressing needs versus those providing public health support via the private sector.

Three primary questions were provided to all interviewees prior to the interview being conducted. Five additional questions had been developed and were to be asked if time remained from the pre-defined 45 minutes, or if the interviewee chose to provide additional time to answer the questions. Results from each of the questions will be identified in subsequent sections of this thesis. The following questions were asked:

Question 1 asked "who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?"

Question 2 explored "What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?"

Question 3 examined "What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?"

Question 4 sought to determine interviewees "personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?"

Question 5 was asked to understand "How do you receive homeland security information pertinent to your region/operations and to whom do you receive direction and speak with regarding questionable reports and critical information?"

Question 6 inquired about interviewee personal opinions regarding "Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?"

Question 7 was intended to ascertain "what are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?"

Question 8 was designed to solicit the personal view of the interviewees by posing "what are your greatest fears relating to public health and a terrorist event?"

1. Public Health Specializations Necessary to Support Homeland Security

All interviewees were asked "Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?" Table 1 provides a summary of all responses received. All interviewees identified what they felt were the specific specializations necessary to support homeland security, as well as where they perceived there were gaps in the number of people we have presently in those specializations. The summary results were evaluated several ways. First, workforce gaps identified by the number of responses identifying the workforce gap for a particular specialization were divided by the number of control subjects identifying the need for the particular specialization, which was then converted to a percentage. Secondly, Table 1 depicts the percentage of all respondents identifying the need for a particular specialization. Finally, new specializations that interviewees deemed would be beneficial to support public health's contribution to homeland security were also identified.

The results of these interviews were encouraging and also provided reason for concern. From the positive perspective, the compiled list of specializations required is

comprehensive and consistent with several previous works[34],[35],[36],[37]. From the negative perspective, initially it was alarming that the majority (50% and above) of the interviewees only identified the specialization needs as: Emergency Response Coordinators/Emergency Management (52%), Regional Hospital Coordinators (52%), Environmental and Communicable Disease Experts/Traditional Public Health/Department Personnel/Environmental Scientists/Environmental Health/Public Health Service/Sanitarians/Public Health Representatives/Disease Investigators/Active/Passive Public Health Surveillance (58%), Paramedics/Emergency Medical Technicians/Ambulance/EMS (65%), Physicians (74%), Nurses (79%) and Epidemiologists/Environmental Epidemiologists (83%). Environmental and Communicable Disease Experts/Traditional Public Health/Department Personnel/Environmental Scientists/Environmental Health/Public Health Service/Sanitarians/Public Health Representatives/Disease Investigators/Active/Passive Public Health Surveillance were combined as a single category. This was done as a result of the inconsistency of the actual titles that various interviewees placed upon specializations. Upon discussing the responsibilities of the specialization they identified, it was determined they were consistent with other titles provided and were therefore combined as a single category.

Table 1. Specialization Gaps Identified by Percentage of Control Subject Responses

Specialization	***Gaps Identified**	****Percentage Gap (%)**	*****Percentage (%) Identifying Specialization**
911 Dispatch Arena	1/1	100	4
Academia	1/1	100	4
Administrators	3/5	60	22
Air Quality	1/2	50	9
All Hazards Specialists	1/1	100	4

[34] Trust for America's Health, "Ready or Not? Protecting the Public's Health in the Age of Bioterrorism," (Washington, D.C.: Trust for America's Health, December 2003).

[35] Gursky, *Progress and Peril*, 32.

[36] Ben Canada, *Terrorism Preparedness: Catalog of Selected Federal Assistance Programs* (Washington, D.C.: Congressional Research Service, The Library of Congress, RL 31227, 2003).

[37] Bernard J. Turnock, *Public Health Preparedness at a Price: Illinois* (New York, New York: The Century Foundation, 2004).

Bioterrorism/Biological Experts	1/1	100	4
Bioterrorism Coordinators	3/3	100	13
Blood Bank Personnel	0/1	0	4
Chemical/Radiological Identification Experts/ Radiological Assessment Teams	1/2	50	9
Coast Guard	1/1	100	4
Consumer Health Care Data Specialists	1/1	100	4
County and State Medical Society Members	1/1	100	4
Critical Care Specialists	1/1	100	4
**** Defensive Preparedness Experts	1/1	100	4
Disaster Medical Assistance Team	0/1	0	4
Disaster Preparedness	0/1	0	4
Education and Training/Outreach Coordinators	5/7	71	30
Emergency Management Staff for Hospitals	2/2	100	9
Emergency Medicine Staff	1/1	100	4
Emergency Response Coordinators/Emergency Management	4/12	33	52
Emergency Response Coordinators for Hospitals	1/1	100	4
Emergency Room Directors	0/1	0	4
Emergency Room Physicians	4/4	100	17
Environmental and Communicable Disease Experts/ Traditional Public Health/Department Personnel/ Environmental Scientists/Environmental Health/Public Health Service/Sanitarians/ Public Health Representatives/Disease Investigators/Active/Passive Public Health Surveillance	12/14	86	58
Environmental Engineers	0/1	0	4
Environmental Sampling	1/1	100	4
Epidemiologists/Environmental Epidemiologists	9/19	47	83
Explosives Treatment Experts	1/1	100	4
Fire Departments	3/8	38	35
Forensics Experts	1/1	100	4
Grants Oversight	2/2	100	9
Hazmat	1/1	100	4
Health Consultant Interface with Law Enforcement	1/1	100	4
Hematology	1/1	100	4
Hospital Administrators	3/7	43	30
Hospital Safety Officers	1/1	100	4

Hospital Staff, non-technical	1/4	25	17
Immunization Experts	0/2	0	9
Industrial Hygiene	1/1	100	4
Infection Control Officer	2/5	40	21
Information/Medical Technology	0/1	0	4
Laboratories	2/3	66	13
Laborers	1/1	100	4
Law Enforcement	5/9	56	39
Logistics/Transportation and Shipping	1/3	33	13
Media	0/1	0	4
Medical Directors/Officers	3/6	50	26
Medical Examiners/Mortuaries	0/2	0	9
Mental Health	4/7	57	30
Meteorology	1/1	100	4
MMRS	0/1	0	4
Modelers	1/1	100	4
Network Specialist	0/2	0	9
Nuclear Medicine	0/2	0	9
Nurses	18/19	95	79
Nutritionists	1/1	100	4
Occupational Health	1/1	100	4
OTs, PTs	1/1	100	4
Paramedics/Emergency Medical Technicians/Ambulance/EMS	9/15	60	65
Patient Tracking and Vital Disposition	0/1	0	4
Pharmacists	3/3	100	13
Physicians	13/17	76	74
Physician Educators	1/1	100	4
Planners/Planning Implementers/Emergency Planners	5/6	83	26
Poison Control	1/1	100	4
Policy Analysts/Makers	1/1	100	4
Pollution Control	0/1	0	4
Process Change Agents	1/1	100	4
Public Health Liaison with Agriculture	1/1	100	4
Public Health Service	1/1	100	4
**** Public Health Liaison with Physicians	1/1	100	4
Public Relations/Information Officers	1/4	25	17
Radiation Experts	3/3	100	13
Radiation Safety Officers	1/1	100	4
Radioncologists	1/2	50	9
Red Cross Preparedness, Response/Recovery	1/3	33	13
Regional Hospital Coordinators	7/12	58	52

Respiratory Therapists	1/1	100	4
Safety Specialists	1/1	100	4
School Nurses	1/3	33	13
School Staff	1/1	100	4
Specialized Event Personnel for Fire Departments	1/1	100	4
Tennessee Emergency Management Agency	0/1	0	4
**** Think Tanks	1/1	100	4
Toxicologists	3/3	100	13
Transportation and Shipping	1/1	100	4
Trauma Surgeons	2/2	100	8
Triage Support	1/1	100	4
Veterinary Medicine	2/4	50	17
Volunteers, MDs, RNs, Administrators, Churches, Etc.	5/9	56	39
Volunteer Coordinators	1/7	14	30
Water Quality	1/1	100	4

* Gaps identified by the number of responses identifying the workforce gap for a particular specialization divided by the number of control subjects identifying the need for the particular specialization.

** Percentage of respondents identifying a work force gap for a specific specialization.

*** Percentage of all respondents identifying the need for a particular specialization.

**** New specializations suggested.

It became evident through these personal interviews that no single person, or majority of the persons interviewed, identified all of the specializations identified. As identified previously, all interviewees presently maintain a present role relating to homeland security. In the absence of an understanding of the complete picture of all the specializations that are required to support homeland security from the public health perspective, one must question how the public health community can develop plans to attract and retain the specialists necessary to support homeland security. One of the twenty eight interviewees suggested that we should focus more on what capabilities we need to support public health's homeland security mission and suggested referring to

DHS's Target Capabilities List[38] Reasons for this disparity are identified in the Limitations Section of this thesis. A summary of some of the most pressing specializations identified and not identified are provided in the Conclusions Section V.

2. Education Presently Required of Specializations and Adequacy to Support the Homeland Security Mission

All interviewees were asked "What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?" Most interviewees did not feel comfortable identifying, nor did they have specific knowledge of the education required for each of the specializations they identified that were necessary to support the homeland security mission. None of the interviewees identified specific education that was "required" for any of the specializations they identified with the exception of the foundation degree or technical training required for the specialization identified. Most of the interviewees did not feel comfortable identifying whether the foundation education of any particular specialization was sufficient to support the homeland security mission. The majority of respondents generically identified that none of the foundation education presently provided was sufficient to support the homeland security mission. Table 2 provides an alarming summary of the results from all interviewees.

Focusing only on those results where more than 50% of the interviewees identified a specific specialization needed, the following represents their perceptions regarding the adequacy of the foundation education required for a specific specialization to support the homeland security mission: Emergency Response Coordinators/Emergency Management (52% identified need for specialization, yet 0% felt their education was adequate), Regional Hospital Coordinators (52% identified need for specialization, yet 8% felt their education was adequate), Environmental and Communicable Disease Experts/Traditional Public Health/Department Personnel/ Environmental Scientists/Environmental Health/Public Health Service/Sanitarians/ Public Health Representatives/Disease Investigators/Active/Passive Public Health Surveillance (58% identified need for specialization, yet 0% felt their education was adequate),

[38] *Target Capabilities List.*

Paramedics/Emergency Medical Technicians/Ambulance/EMS (65% identified need for specialization, yet 33% felt their education was adequate), Physicians (74% identified need for specialization, yet 0% felt their education was adequate), Nurses (79% identified need for specialization, yet 11% felt their education was adequate) and Epidemiologists/Environmental Epidemiologists (83% identified need for specialization, yet 5% felt their education was adequate). It is important to note that the responses obtained represent subjective assessments from all interviewees. Even with that in mind, public health specializations necessary to support homeland security without additional specialized training appears to be tracking towards disaster.

Table 2. Adequacy of Specialization Education to Support Homeland Security

Specialization	*** Adequacy of Education**	**** Percentage Adequate (%)**	*****Percentage (%) Identifying Specialization**
911 Dispatch Arena	0/1	0	4
Academia	0/1	0	4
Administrators	1/5	20	22
Air Quality	0/2	0	9
All Hazards Specialists	0/1	0	4
Bioterrorism/Biological Experts	1/1	100	4
Bioterrorism Coordinators	0/3	0	13
Blood Bank Personnel	0/1	0	4
Chemical/Radiological Identification Experts/ Radiological Assessment Teams	1/2	50	9
Coast Guard	1/1	100	4
Consumer Health Care Data Specialists	0/1	0	4
County and State Medical Society Members	0/1	0	4
Critical Care Specialists	0/1	0	4
**** Defensive Preparedness Experts	0/1	0	4
Disaster Medical Assistance Team	0/1	0	4
Disaster Preparedness	0/1	0	4
Education and Training/Outreach Coordinators	0/7	0	30
Emergency Management Staff for Hospitals	0/2	0	9

Emergency Medicine Staff	0/1	0	4
Emergency Response Coordinators/Emergency Management	0/12	0	52
Emergency Response Coordinators for Hospitals	0/1	0	4
Emergency Room Directors	0/1	0	4
Emergency Room Physicians	0/4	0	17
Environmental and Communicable Disease Experts/ Traditional Public Health/Department Personnel/ Environmental Scientists/Environmental Health/Sanitarians/ Public Health Representatives/Disease Investigators/Active/Passive Public Health Surveillance	0/14	0	58
Environmental Engineers	0/1	0	4
Environmental Sampling	0/1	0	4
Epidemiologists/Environmental Epidemiologists	1/19	5	83
Explosives Treatment Experts	0/1	0	4
Fire Departments	2/8	25	35
Forensics Experts	0/1	0	4
Grants Oversight	0/2	0	9
Hazmat	1/1	100	4
Health Consultant Interface with Law Enforcement	0/1	0	4
Hematology	0/1	0	4
Hospital Administrators	0/7	0	30
Hospital Safety Officers	1/1	100	4
Hospital Staff, non-technical	0/4	0	17
Immunization Experts	0/2	0	9
Industrial Hygiene	1/1	100	4
Infection Control Officer	1/5	20	21
Information/Medical Technology	0/1	0	4
Laboratories	0/3	0	13
Laborers	0/1	0	4
Law Enforcement	1/9	11	39
Logistics/Transportation and Shipping	0/3	0	13
Media	0/1	0	4
Medical Directors/Officers	0/6	0	26
Medical Examiners/Mortuaries	0/2	0	9

Mental Health	0/7	0	30
Meteorology	0/1	0	4
MMRS	0/1	0	4
Modelers	1/1	100	4
Network Specialist	1/2	50	9
Nuclear Medicine	1/2	50	9
Nurses	2/19	11	79
Nutritionists	0/1	0	4
Occupational Health	0/1	0	4
OTs, PTs	0/1	0	4
Paramedics/Emergency Medical Technicians/Ambulance/EMS	5/15	33	65
Patient Tracking and Vital Disposition	1/1	100	4
Pharmacists	0/3	0	13
Physicians	0/17	0	74
Physician Educators	0/1	0	4
Planners/Planning Implementers/Emergency Planners	1/6	17	26
Poison Control	0/1	0	4
Policy Analysts/Makers	0/1	0	4
Pollution Control	0/1	0	4
Process Change Agents	0/1	0	4
Public Health Liaison with Agriculture	0/1	0	4
Public Health Service	1/1	100	4
**** Public Health Liaison with Physicians	0/1	0	4
Public Relations/Information Officers	0/4	0	17
Radiation Experts	0/3	0	13
Radiation Safety Officers	0/1	0	4
Radioncologists	1/2	50	9
Red Cross Preparedness, Response/Recovery	0/3	0	13
Regional Hospital Coordinators	1/12	8	52
Respiratory Therapists	0/1	0	4
Safety Specialists	1/1	100	4
School Nurses	0/3	0	13
School Staff	0/1	0	4
Specialized Event Personnel for Fire Departments	1/1	100	4
Tennessee Emergency Management Agency	0/1	0	4

Think Tanks	0/1	0	4
Toxicologists	1/3	33	13
Transportation and Shipping	1/1	100	4
Trauma Surgeons	2/2	100	8
Triage Support	1/1	100	4
Veterinary Medicine	0/4	0	17
Volunteers, MDs, RNs, Administrators, Churches, Etc.	0/9	0	39
Volunteer Coordinators	0/7	0	30
Water Quality	0/1	0	4

* Adequacy of education identified by the number of responses identifying the education adequate for a particular specialization divided by the number of control subjects identifying the need for the particular specialization.

** Percentage of respondents identifying adequacy of education for a specific specialization.

*** Percentage of all respondents identifying the need for a particular specialization.

3. Additional Education Suggested

This thesis examined "What type of additional education would be useful for each of these specializations and is it presently available? If any, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?" This question provided numerous insights to existing training that all felt was necessary and also provided suggestions for training that is not presently available. One of the largest concerns relating to additional education needed was cost and availability of the training. Additional education that is presently available requires the individual to be self motivated/directed to obtain the training. Many echoed the need for standardized/accredited training that would be available. From the public health perspective, this clearinghouse for education does not exist. There is no peer reviewed, DHS or DHHS approved listing of training necessary for public health personnel. Negotiating the morass of training available and determining what is good/necessary

versus those that provide limited value is primarily the responsibility of the person trying to obtain the training. The types of training suggested by interviewees may be found in Appendix D.

4. Value of a Homeland Security Medical/Public Health Fellowship/Graduate MPH

All interviewees were polled to obtain their "personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH." The preponderance of responses, 22 of 24 (92%), indicated that this type of program directed to those in public health/healthcare, social workers and hospital administration would be of great value. Only 1 of 24 (4%) of all people interviewed identified a similar program that had been set up within academia. The program identified was the University of Tennessee's graduate school of nursing that began offering a master's and a doctoral program in nursing with an emphasis in homeland security that began teaching students in August of 2005.

All respondents, whether they were for or against this type of program, recognized that all the homeland security educational programs presently available are extremely law enforcement and fire centric. Hospital administrators, physicians and nurses were specifically identified as specializations that would benefit from such education by 5 of 24 (21%) of the respondents. Many believed that this formal education may help bridge the gap and improve integration efforts specifically between the law enforcement and public health communities.

Only 2 of 24 (8%) of those interviewed expressed less than an enthusiastic response regarding the development of a medical fellowship/graduate MPH concentration degree offering in homeland security. One individual indicated that they felt that this type of educational offering would probably not provide as large an impact as many might believe. They questioned what could be done with this, and whether people graduating from this type of program could really be in a position to make a change. The only other negative comment regarding the offering of such a program warned that this

program would have to be very broad. They indicated that it might be able to be done and could possibly be useful. Additional details regarding interviewee responses may be reviewed in Appendix D.

5. Homeland Security Information Sources

Not all of the interviewees were asked "How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?" This was due to the lack of time based upon our predefined 45 minute commitment from interviewees. Only 14 of 24 (58%) of interviewees were asked this question. The most consistent response from interviewees, 5 of 14 (36%), indicated that they received and/or consulted with CDC to obtain information or resolution of questionable reports. It was evident from all responses and was specifically voiced by 2 of 14 (14%), of the interviewees that there is no leader in the field for this information. There are numerous websites with questionable material and many with excellent material. One interviewee questioned how they were to decipher good/reliable information from the bad information? Many elicited their concern of the lack of standardization of the material they may receive. Other sources of information suggested consisted of the Tennessee Emergency Management Agency (TEMA), resident infectious disease experts, state epidemiologists, regional hospital coordinators, public health departments, fire departments, the Tennessee Hospital Association, the Governor's Office of Homeland Security and numerous list servers. What was most alarming was that 3 of 14 (21%) of those interviewed believed the information they would receive and/or clarification of questionable reports would be accomplished via the media. This finding should provide cause for leaders to consider the role and responsibility the media may have to play during times of a catastrophic event.

6. Homeland Security Impact on Public Health

All interviewees, 24 of 24 (100%), were asked whether "homeland security preparedness is impacting public health's ability to conduct their primary goals relating to health and welfare of population?" The majority of the respondents, 12 of 24 (50%), indicated that homeland security preparedness was impacting public health's ability to conduct their primary mission in a positive way. Most indicated that the public health

system had been terribly under-funded and had deteriorated to a "skeleton crew". The addition of homeland security funding has actually allowed for the hiring of additional personnel within Tennessee's public health infrastructure at the state/local level. The infusion of this funding has allowed the state to hire personnel and equipment that have a dual use. An example of these specializations/positions made available following the infusion of homeland security funding to Tennessee are Regional Hospital Coordinators, Emergency Response Coordinators and Bioterrorism Coordinators that have been placed throughout Tennessee. The large gap public health departments and the federal government reported on regarding epidemiologists and environmental epidemiologists seems to have changed in a positive way in that most believe we now have enough epidemiologists. Some of the interviewees, 10 of 24 (42%), also indicated that we could find ourselves in a situation in the future where homeland security preparedness may effect public health's ability to conduct their primary mission. One respondent (4%) indicated they really couldn't make an assessment of whether there was an effect and another respondent (4%) indicated they just didn't know.

7. Preparedness Performance Objectives

An additional optional question developed focused on "what are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?" Only 7 of 24 (29%) of interviewees were asked this question due to the lack of time based upon our predefined 45 minute commitment for interviewees. For the purpose of this research, and due to the low response rate, this question and the limited responses associated with this question will not be evaluated. Documentation of interviewee responses may be reviewed in Appendix D.

8. Greatest Fears Relating to Public Health and a Terrorist Event

One might have expected that the types of responses regarding personal fears relating to a terrorist event would be all over the map. A total of 23 of 24 interviewees (96%) responded to this question. One interviewee declined to answer this question. The majority of respondents, 9 of 23 (39%), indicated their greatest fear would be our total lack of being prepared to handle a major incident. Another notable concern voiced by 4 of 23 (18%) was a total breakdown of the system and our inability to communicate and

integrate a response in a timely and efficient manner. This position seems well founded when analyzing recent events regarding our Nation's response to Hurricane Katrina, a natural disaster to which we had forewarning, versus a terrorist event that would most likely occur with limited to no warning whatsoever. Others, 7 of 23 (30%), indicated their prime concern would be a biological event, be it bioterrorism, influenza or a superbug. Additional documentation of interviewee responses may be reviewed in Appendix D.

V. CONCLUSIONS

A. POINTS OF DISCUSSION

1. Communication/Integration

The State of Tennessee had twelve million dollars intended to be allocated to hospitals throughout the state to prepare for biological or chemical incidents from a calendar year 2002 state grant program.[39] In February of 2004, $2.4 million had been spent on administrative costs associated with the state grant program and funding was just being made available to the hospitals throughout the state. Although numerous plans have been developed to "prepare" for a public health atrocity; functional, political and organizational fiefdoms are more prevalent than ever in our public services. Collaboration and the accompanying communication between different elements of the Department of Homeland Security, Department of Health and Human Services, and those supporting elements to the Department of Health and Human Services ESF-8 role identified in Section I.B. of this thesis coupled with state and local public health departments as well as the private sector are improving, but it is still an unnatural act. In 2000, CDC reported that approximately 40% of local health departments had access to the Internet and utilized e-mail. It is believed that this statistic has changed since 2000 since all interviewees from within the public health departments were contacted via e-mail during the course of this study. The majority of the disease reporting was being done to CDC via mail, telephone or fax machine.[40]

Most interviewees and an issue paper developed by RAND entitled "Are Local Health Responders Ready for Biological and Chemical Terrorism?" have recognized that a serious flaw associated with our public health strategy for homeland security is a lack of integration with weapons of mass destruction preparedness and planning for response.[41] One of the nurses interviewed from the private sector echoed this concern. As part of the local emergency planning committee (LEPC) this individual was quite

[39] Chattanooga Times Free Press, "Hospital officials say they're unprepared to respond to a chemical or biological attack because the state has been so slow in distributing millions of dollars in federal homeland security money," February 16, 2004.

[40] Noji, "Creating a Health Care Agenda," 10.

[41] Davis and Blanchard, *Are Local Health Responders Ready*, 1-7.

aware of the roles and responsibilities that would be required of their hospital employer. Unfortunately, since preparing for homeland security issues was only one of several responsibilities this nurse had, understanding how the whole plan would work, and who would be responsible for other aspects of the plan that might influence their operations, was a great unknown. According to this individual, this view and understanding was shared by many of the contributors to the LEPC. Apparently public health has a good understanding of the entire plan, but those that would have to provide support to that plan do not have a clear understanding of the integration and roles and responsibilities of other contributors outside their immediate responsibilities.

Local and metropolitan public health officials have echoed their concerns regarding integrating the private sector with homeland security tabletops, drills and full-scale exercises. Many respondents indicated there is somewhat of a lackadaisical attitude regarding participation of the appropriate people in tabletops, drills and full-scale exercises. It was reported that many hospitals send junior personnel to these activities and these people, while demonstrating that the hospitals are participating, will most likely not be the people that show up for a high-consequence low-probability event. Many have indicated that communication must be enhanced and the time to trade business cards is not during a catastrophic event.

2. Nursing

Our Nation continues to face critical shortages from the nursing community. The Tennessee Hospital Association has indicated an alarming shortage of nurses and other health care professionals.[42] Their estimates indicate 5% of the nursing positions in Tennessee hospitals were unfilled in 1998. This rose to 8% in 1999, 9% in 2000 and greater than 10% by the beginning of 2002. Is has been estimated that Tennessee may have to import over 30,000 nurses to provide for services within the state by 2020.

Many of the interviewees expressed their own concerns to the critical nursing shortage further validating the previous information provided in this section. There were several major issues identified by those within the public health community. The process involved with hiring and recruiting competent nurses to serve within the public health

[42] Raiford, "Vandy."

departments in Tennessee is touted as one of the problems. The time and processes associated with offering employment for nurses is apparently cumbersome and lengthy. Interviewees offer validation to this by identifying that there are several open positions within the state of Tennessee. Unfortunately, many potential prospects for employment are lost to the private sector because the state system can not act fast enough to hire these potential candidates. Additionally, many of the positions are located in very rural areas of Tennessee. Unless a potential candidate was originally from the rural area, or comes from a similar rural area, many are not willing to locate to these areas requiring nursing skills. Finally, the pay structure for nurses in public health departments is extremely low as compared with the private sector. With such a shortage of nurses statewide, nurses find themselves in an attractive employment market. Should they not be satisfied with their present place of employment, the prospect of finding an alternate employer is less cumbersome than for many professions in our current economy.

3. Medical Intelligence

None of the interviewees identified the need for medical intelligence which is perceived as a significant specialization gap by this author for the public health community. One interviewee did identify that it would be advisable to institute public health liaisons between law enforcement agencies. The problems identified by this interviewee indicate that law enforcement treats intelligence information they have as law enforcement sensitive, and those in the public health community, mostly perceived from the private sector perspective, do not have appropriate clearances, nor does law enforcement understand the benefit of public health's need-to-know. With most hospitals operating in extremely tight profit/non-profit margins, the inability to plan for potential events represents a serious logistical and staffing concern. The Pat Roberts Intelligence Scholars Program (PRISP) was designed to develop and prepare future analysts to meet the intelligence needs of the Central Intelligence Agency.[43] The emphasis of this program, like many other homeland security efforts, is extremely law enforcement centric. A program such as PRISP that would educate and develop future medical intelligence analysts is necessary and would function as a first step to promote sharing of

[43] United States Army, Ground Intelligence Center, 2005, cited 25 February 2005, available from http://avenue.org/ngic/about_prisp.htm.

intelligence information between law enforcement and public health which is necessary. Prevention of terrorist-caused healthcare/public health problems can be accomplished through the development of strategies of anticipation (e.g. modeling, psychological assessment and prediction), early detection (e.g. surveillance, improved diagnostic equipment, and improved diagnostic strategies), and interruption (e.g. immunization, rapid response, and apprehension of perpetrators through improved forensic techniques). Mitigation of terrorist-caused healthcare problems can be accomplished through improved treatment strategies, improved communication among healthcare workers, mass care preparations, and improved tracking of disease spread. Critical to the success of healthcare/public health and homeland security will be the successful "institutional linkage"[44] between the law enforcement and public health/healthcare community.

4. Mental Health

It was interesting to note that a limited number of interviewees, only 3 out of 24 (12.5%), identified mental health as a specialization necessary to support the homeland security mission. Mental health resources are critical to prepare for, respond to, and assist with the recovery efforts relating to a terrorist event. A troubling aspect associated with terrorism is our inability to agree on definitions regarding terrorism. As we embark upon this new age where the threat of the Cold War has diminished and has been replaced by threats of asymmetric warfare, specialty groups that contribute to the mitigation, preparedness, response and recovery to the Global War on Terrorism come to the table with their specialty-specific definitions/views on terrorism. For instance, the Federal Bureau of Investigation defines terrorism as "the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." On the other hand, those within the mental health community believe "the goal of terrorism is to inflict psychological injury, physical injury is the delivery method"[45]. While much has changed

[44] Health Science Policy Program Committee on R&D Needs for Improving Civilian Medical Response to Chemical and Biological Terrorism Incidents, Institute of Medicine and Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research Council, *Chemical and Biological Terrorism* (Washington, D.C.: National Academy Press, 1999), 30.

[45] Steve Steury, M.D. and Joseph Parks, M.D., "State Mental Health Authorities' Response to Terrorism," (technical paper, Alexandria, Virginia: National Association of State Mental Health Program Directors, NASMHPD Medical Directors Council, 2003), 3.

since the horrific events of September 11th, the psychosocial aspects of terrorism and the necessary support for people exposed to horrific events continues to lag behind.

Many have professed the necessity for mental health support for homeland security. Mental health needs to be engaged in all phases of emergency management and homeland security. Unfortunately, the review of most literature indicated that mental health is not involved in all aspects (mitigation, preparedness, response and recovery) of disasters.[46],[47]

Fear management is a relatively new form of disaster response and is seen as necessary to limit the deleterious psychological effects following a disaster/terrorist event.[48] While thousands of people died via the terrorist attacks of September 11th, it is estimated that the psychological casualties numbered in the tens to hundreds of thousands.[49] A study conducted by Mount Sinai Medical School on mental health status of the rescue, recovery workers and volunteers from the World Trade Center indicated that 51% of the participants "met criteria for a clinical mental health evaluation on at least one screening questionnaire."[50] Additionally, the anthrax attack of 2001 resulted in only five fatalities yet affected millions of people. The Aum Shinrikyo cult successfully released sarin gas into the Tokyo subway in 1995. While fatalities were limited to 12 and 1,000 people had to be hospitalized, there were well over 4,000 people, the worried well, that sought treatment for their fear of being potentially exposed.[51] The shear number of

---

[46] National Mental Health Association, "Mental Health Not A Priority in America, NMHA Says," About.com, 2006, cited 15 January 2006, available from http://panicdisorder.about.com/b/a/024821.htm.

[47] Holly Kenny and Leah Oliver, "Children's Mental Health and Terrorism," *National Conference of State Legislatures*, 2002, http://www.ncsl.org/programs/press/2002/issues/mentalhealth.htm [Accessed 15 January 2006].

[48] Robyn Pangi, "After the Attack: The Psychological Effects of Terrorism," *Perspectives on Preparedness* No. 7 (August): 1.

[49] Ibid.

[50] R.P. Smith, M.D., et al., "Mental Health Status of World Trade Center Rescue and Recovery Workers and Volunteers --- New York city, July 2002 -- August 2004," *Morbidity and Mortality Weekly* 53 (35): 812, 10 September 2004, http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a2.htm [Accessed 29 May 2005].

[51] National Child Traumatic Stress Network, "Chemical Terrorism," cited 15 May 2005, available from http://nctsnet.org/nccts/nav.do?pid=ctr_terr_chem_descanddisasterType=chem.

people involved in these recent atrocities demonstrates the need for mental health to be integrated into homeland security efforts.

Many are concerned about fear and panic as a result of a terrorist incident. The likelihood of panic as a result of a horrific event seems to be unfounded based on results of past research. On Memorial Day weekend of 1977, the Beverly Hills Supper Club in Kentucky was the scene of one of the most catastrophic fires in U.S. history. Despite limited numbers of exits and little pre-warning of the fire, the patrons that night did not panic. In a report published in the January 1978 edition of the Fire Journal they reported that "In the early stage of the fire, there was evidently little panic."[52] Based upon this report and other research conducted on panic associated with disasters, the idea that people will panic in these given situations seems unfounded.[53],[54],[55]

One of the most serious gaps relating to mental health support for homeland security appears to be the services we would provide for children. Children will respond to events differently than adults. Their response to these events will be influenced by their age, personality, personal history, developmental level, their exposure and how adults around them respond.[56] In a letter sent to the Secretary of Health and Human Services on June 12, 2003, the National Advisory Committee on Children and Terrorism outlined some key steps they proposed to improve mental health support for children and terrorism. The advisory committee proposed:

1. Review all DHHS programs and guidance so that a specific focus would be placed on the needs of children and families;
2. Funding for terrorism programs should be linked to the needs of children;

---

[52] Paul A. Long and John C.K. Fisher, "Twenty years later, anguish still burns," *The Cincinnati Post*, 24 May 1997.

[53] L. Clarke, *Mission improbable: using fantasy documents to tame disaster* (Chicago: University of Chicago Press, 1999).

[54] B.E. Aguirre, D. Wenger, and G. Vigo, "A test of the emergent norm theory of collective behavior," *Sociology Forum* 13 (1998): 301-320.

[55] Thomas A. Glass and Monica Schoch-Spana, "Bioterrorism and the People: How to Vaccinate a City against Panic," *Confronting Biological Weapons* 34 (15 January 2002).

[56] Steury and Parks, “State Mental Health,” 14.

3. DHHS needs to develop a structure to provide oversight of these programs to ensure they continue to meet the needs of children;
4. New pediatric and psychosocial programs need to be developed to meet the needs of children based upon the ongoing threat of terrorism; and
5. Addressing the needs of children with respect to terrorism needs to be viewed as a major national security response to terrorism.[57]

Mental health resources to support homeland security have improved since the atrocities of the terrorist attacks on the World Trade Center and the Pentagon. Mental health and their involvement in the mitigation, preparedness, response and recovery efforts associated with homeland security continue to improve but still wane behind with respect to other participants. Much more needs to be done to integrate mental health into phases other than response for homeland security. Perhaps the stigma associated with mental health continues to account for why it has not been integrated efficiently into homeland security efforts. Of most concern is the lack of plans for children relating to terrorism. Much additional research and changes to policies and budgets need to happen in order to provide improvements for mental health to support homeland security.

B. LIMITATIONS

The results of the interviews conducted for this thesis represent a snapshot of opinions of the many hard-working people involved with providing public health support to homeland security. While the information collected was designed to be as representative of the views of public health as a whole as possible, one must also consider that the sample population for this study represents a small voice of the entire public health community. Although the complete listing of specializations interviewees believed were required to support public health's contribution was quite comprehensive and consistent with previous research conducted by federal, state, local and private entities, it was alarming that none of the interviewees provided a comprehensive listing consistent with these previous works. Possible explanations for this disparity may be that the sample population utilized was too small and not representative. Another possible

[57] National Advisory Committee On Children and Terrorism, *National Advisory Committee on Children and Terrorism Report to the Secretary* (Washington, D.C.: National Advisory Committee on Children and Terrorism), June 12, 2003, 1.

explanation might be that the results of these interviews might be consistent with what might be ascertained via a larger sample population.

For the purposes of this study, public health was pre-defined for all interview subjects. Despite providing this definition, the researcher believes that many interviewees, especially those interviewed within public health departments, viewed public health and their role supporting homeland security with little difference to the way public health was viewed prior to 911. It is the opinion of this researcher that public health is still viewed by many within the community as that of providing for the welfare of the public and conducting traditional syndromic surveillance activities. The view of public health operating in a new venue following 9/11 as true all hazards first receivers still seems to be lagging.

C. RECOMMENDATIONS

1. There is a lack of understanding of all the types of specializations needed. While the comprehensive listing of specializations provided by interviewees may appear complete, it was disconcerting that there was little consistency associated with responses from the interviewees. It leads this researcher to believe that there is significant work that remains to clearly identify the types of specializations needed to support the homeland security mission and that this information be communicated and understood within the public health arena. Perhaps a national working group should be established composed of many of the stakeholders identified by the interviewees. Additionally, as suggested by one of the interviewees, more emphasis should be placed on the critical capabilities necessary to support the homeland security mission in an effort to identify more clearly what type of specialists or generalists are necessary.

2. There is no clearinghouse of "approved" homeland security education for those within the public health arena. Millions of dollars have been expended within the past three years to provide weapons of mass destruction training for the health care community. Much of the training offered is disparate, reflecting the differences in opinions and points of view seen in the Department of Homeland Security. Standards for the development of curriculum, pedagogical methods and peer review are limited to non-existent. Standardization is necessary to promote an articulate, informed and active

public health community. Additionally, as evidenced through the personal interviews associated with this study, none of the interviewees maintain a complete understanding of what should be required. One of the most appropriate quotes from one of the anonymous interviewees was "we don't know what we don't know. Now that's a problem". An understanding and evaluation of current federal, state and local homeland security initiatives relating to standardization and the training of public health personnel is necessary. In the absence of such, many individuals within the public health arena are self-motivated in regards to the training and education they seek. Many may be expending countless personal hours seeking education that may provide limited benefit to their organization or to themselves personally. Additionally, the lack of standardization and academic/professional peer review may lead to the development of a future cadre of public health professionals that may receive substandard and incorrect information on which to base their day-to-day professional decisions. There was little consistency from the responses of the interviewees regarding who the appropriate makeup of stakeholders should be to identify, develop and deliver such training. A national working group composed of many of the stakeholders suggested by the interviewees could serve as a good start to make these determinations.

3. There is an inability to attract superior personnel to the public health arena. This is particularly true with state and local jobs. Problems arise due to cumbersome hiring practices, poor pay and the minimal security associated with positions that are presently funded annually via state and federal grants. State and local governments must develop a means of streamlining their hiring practices, providing competitive compensation and providing more professional security associated with positions if they are to have a chance to attract and retain the best and brightest.

4. The vast majority of interviewees perceived there would be value in the development of a homeland security medical/public health fellowship/graduate MPH program. Countless dollars have been spent to develop a myriad of homeland security training and education that is presently extremely law enforcement/fire centric. The methods of developing and delivering this training is presently conducted via academic programs to develop future homeland security contributors and through the development

of modular in-service training similar to those offered via the Office for Domestic Preparedness[58]. Only two of the interviewees were aware of any academic program in the Nation that had begun delivering an academic program designed for those within the public health community. The University Of Tennessee College Of Nursing announced it would begin offering a master's degree in Homeland Security Nursing in August of 2005[59]. This program is the first of its kind in the nation and has been specifically designed to support the needs of the public health community. Additionally, the University Of Tennessee Graduate School Of Medicine began offering a medical fellowship in homeland security studies in the spring of 2006. This program intends to collaborate with researchers from Oak Ridge National Laboratory, the University Of Tennessee College Of Nursing, the University Of Tennessee School Of Veterinary Medicine and the University of Tennessee College of Education, Health and Human Sciences[60]. Presently, neither of these programs (critical examples of academic programs designed to serve the needs of the public health community) has received significant state and federal financial incentives. Funding to develop such programs in concert with working to develop solutions regarding "what we as a nation need" and "what these people need to know" is imperative in our fight against terrorism.

Our public health preparedness posture is changing. We understand that we must prepare for and develop an effective manner of attracting, training and retaining our current and future generations of public health/healthcare professional leaders. One of the most critical aspects of our Nation's public health preparedness is dependent upon having educated and trained public health personnel available in the event of a public health disaster, whether it is natural or terrorist in etiology. Improvements are being made. We presently have an opportunity take advantage of the homeland security dollars that are being spent on public health. This windfall of funding could be put to use so that we are not only better prepared for a future terrorist response, but the same people used in

---

58 *ODP WMD Training Program, Enhancing State and Local Capabilities to Respond to Acts of Terrorism* (Washington, D.C.: Department of Homeland Security), 2004.

59 The University of Tennessee, "UT's Homeland Security Nursing Degree First In Nation," Tennessee Today, 2005, cited 12 December 2005, available from http://pr.tennessee.edu/news/release.asp?id=2206.

60 The University of Tennessee, "Fellowships - Homeland Security Studies," Department of Family Medicine, 2005, cited 20 December 2005, available from http://gsm.utmck.edu/family_medicine/hss.htm.

this type of response are crucial to revitalizing our entire public health system.[61] This dual-function system is necessary whether we are dealing with infectious disease or a terrorist attack.[62] While the preceding statements seem logical, there are serious overarching problems that must be resolved. A primary problem that exists is that our public health/healthcare system is currently inefficient at best. Several past and the present administration have claimed that rebuilding our Nation's public health/healthcare system is a priority but little has been done to make substantive changes to our present system.

To date, we have not "fixed" our national healthcare system. Additional funding, while at first glance may appear helpful, may actually exacerbate the problems associated with our system because the public health workforce is continuing to age and subsequently we loose personnel due to attrition and we are forced to do more with fewer capital resources. The reconstruction of our national healthcare policy must include the roles and responsibilities relating to homeland security before we will recognize optimized benefits of increased funding due to homeland security. While the research conducted to date provides excellent examples of where our human capital deficiencies exist, they all fail to recognize or communicate the underlying root cause of our public health preparedness. National healthcare reform is necessary. This reform must consider the roles, responsibilities, policies, funding, recruitment, education and methods of retaining critical public health professionals in order to be successful.

We must make changes to prepare our future cadre of public health professional leaders. New ways to attract and retain these future leaders is long overdue. This research may serve as a contributor to a foundation for identifying the components of a proposed homeland security curriculum or curricula for public health personnel. Based upon information obtained regarding public health professional needs by specialization, locality and knowledge base needs, policy recommendations for future research along these lines provided may offer useful recommendations regarding changes necessary to

---

[61] Hearne and Segal, "Leveraging," 230.

[62] Susan West Marmagas, Laura Rasar King, and Michelle G. Chuk, "Public Health's Response to a Changed World: September 11, Biological Terrorism, and the Development of an Environmental Health Tracking Network," *American Journal of Public Health* 93, no. 8 (August 2003): 1229.

better educate, attract, retrain, maintain and retain public health professionals with requisite skills to support the homeland security mission. This research should serve as a benchmark to develop future lines of inquiry and methods for success.

APPENDIX A. INITIAL CONTACT SCRIPT

Hello, my name is David Landguth and I work for the University of Tennessee/ORNL Center for Homeland Security and Counterproliferation. I'm presently a graduate student in the Office for Domestic Preparedness' Homeland Security Leadership development Program. This program leads to a graduate degree in homeland security and is being delivered via the Naval Postgraduate School. I was referred to you by (name) who indicated you presently serve in a public health capacity relating to homeland security. I'm presently trying to secure subject matter experts willing to devote approximately 45 minutes of their time for a personal interview that will allow me to conduct research relating to my thesis. I would greatly appreciate your input and support. All research participants will be provided complete anonymity. Would you be willing to devote approximately 45 minutes of your time at your convenience? (If yes, thank them and continue. If no, thank them for their time.)

I'd like to briefly provide you some background regarding my thesis research interests. My thesis will focus on the identification of critical public health human capital needs and the appropriate knowledge base needed to support homeland security. For the purposes of my research, I am defining public health as: individuals (private, volunteers and those funded by a government entity) responsible for safeguarding and enhancing the health of the community in relation to homeland security. It is important to assess:

1. What critical public health human capital needs are necessary to support the homeland security mission?
2. Identify what specific required specializations, deficiencies existing associated with meeting the force requirements in these specializations and the appropriate knowledge these groups should maintain.

This thesis will become publicly available via the Naval Postgraduate School. Gaps and skills needed to support homeland security will be summarized. The results and recommendations may be useful to future policy makers and academia in designing programs to enhance public health education relating to homeland security. For the purposes of this research, each research participant questioned, such as you, will be

assigned a specific control number. No information regarding your name or other personal information will be divulged without your written approval which is not anticipated. I will provide you an electronic copy of my limited research questions prior to our meeting. Who would you suggest I contact regarding scheduling a time convenient to your schedule? Thank you for your time and I look forward to meeting you in person.

APPENDIX B. CONSENT FORM PACKAGE

B1. PARTICIPANT CONSENT FORM

1. **Introduction.** You are invited to participate in a research proposal involving identifying Public Health Specializations and Education Needs to Support Homeland Security**.** With information gathered from you and other participants, we hope this will serve as a foundation to our understanding so policies and plans can be made to educate, recruit, retain, maintain and retrain the appropriate critical public health human professionals to support homeland security. We ask you to read and sign this form indicating that you agree to be in the study. Please ask any questions you may have before signing.

2. **Background Information.** A Naval Postgraduate School Master's degree candidate is conducting this research.

3. **Procedures.** If you agree to participate in this study, the researcher will explain the tasks in detail. There will be a single session lasting approximately one hour in duration, during which you will be asked questions regarding your views on public health specializations and educational needs necessary to support homeland security.

4. **Risks and Benefits.** This research involves no risks or discomforts. The benefits to the participants involves contributing to the foundation to our understanding so policies and plans can be made to educate, recruit, retain, maintain and retrain the appropriate critical public health human professionals.

5. **Compensation.** No tangible reward will be given. A copy of the results will be available to you at the conclusion of the experiment.

6. **Confidentiality.** The records of this research will be kept confidential. No information will be publicly accessible which could identify you as a participant.

7. **Voluntary Nature of the Study.** If you agree to participate, you are free to withdraw from the study at any time without prejudice. You will be provided a copy of this form for your records.

8. **Points of Contact.** If you have any further questions or comments after the completion of the study, you may contact the research supervisor, Dr. Anke Richter (831) 656-2468 arichter@nps.navy.mil.

9. **Statement of Consent.** I have read the above information. I have asked all questions and have had my questions answered. I agree to participate in this study.

---	---
Participant's Signature	Date
---	---
Researcher's Signature	Date

B2. MINIMAL RISK CONSENT STATEMENT

NAVAL POSTGRADUATE SCHOOL, MONTEREY, CA 93943

Participant: VOLUNTARY CONSENT TO BE A RESEARCH PARTICIPANT IN: Public Health Specializations and Education Needs to Support Homeland Security.

1. I have read, understand and been provided "Information for Participants" that provides the details of the below acknowledgments.

2. I understand that this project involves research. An explanation of the purposes of the research, a description of procedures to be used, identification of experimental procedures, and the extended duration of my participation have been provided to me.

3. I understand that this project does not involve more than minimal risk. I have been informed of any reasonably foreseeable risks or discomforts to me.

4. I have been informed of any benefits to me or to others that may reasonably be expected from the research.

5. I have signed a statement describing the extent to which confidentiality of records identifying me will be maintained.

6. I have been informed of any compensation and/or medical treatments available if injury occurs and is so, what they consist of, or where further information may be obtained.

7. I understand that my participation in this project is voluntary, refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled. I also understand that I may discontinue participation at any time without penalty or loss of benefits to which I am otherwise entitled.

8. I understand that the individual to contact should I need answers to pertinent questions about the research is David C. Landguth, Principal Investigator, and about my rights as a research participant or concerning a research related injury is Prof. Jim Eagle, Operations Research Dept. Chairman or CAPT Nick Davenport, MC, USN, the Naval Postgraduate School Flight Surgeon. A full and responsive discussion of the elements of this project and my consent has taken place. *NPS Medical Monitor:* CAPT Nick Davenport, MC, USN, Flight Surgeon, Naval Postgraduate School (831) 656-7876, nadavenp@nps.navy.mil

_____

Signature of Principal Investigator Date

_____

Signature of Volunteer Date

B3. PRIVACY ACT STATEMENT

NAVAL POSTGRADUATE SCHOOL, MONTEREY, CA 93943

PRIVACY ACT STATEMENT

1. Purpose: This thesis will focus on the identification of critical public health human capital needs and their appropriate knowledge base for homeland security.

2. Use: It is important to assess what critical public health human capital needs are and to identify specific required specializations, deficiencies existing associated with meeting the force requirements in these specializations and the appropriate knowledge these groups should maintain. Of primary importance is the question of how to prepare our future public health leaders to support the homeland security mission? This will serve as a foundation to our understanding so policies and plans can be made to educate, recruit, retain, maintain and retrain the appropriate critical public health human professionals.

3 Disclosure/Confidentiality:

   a. I have been assured that my privacy will be safeguarded. I will be assigned a control or code number which thereafter will be the only identifying entry on any of the research records. The Principal Investigator will maintain the cross-reference between name and control number. It will be decoded only when beneficial to me or if some circumstances, which is not apparent at this time, would make it clear that decoding would enhance the value of the research data. In all cases, the provisions of the Privacy Act Statement will be honored.

   b. I understand that a record of the information contained in this Consent Statement or derived from the experiment described herein will be retained permanently at the Naval Postgraduate School or by higher authority. I voluntarily agree to its disclosure to agencies or individuals indicated in paragraph 3 and I have been informed that failure to agree to such disclosure may negate the purpose for which the experiment was conducted.

   c. I also understand that disclosure of the requested information is voluntary.

_____

Name, Grade/Rank (if applicable) DOB
[Please print]

_____

Signature of Volunteer Date

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C. QUESTIONNAIRES

C1. PRE-INTERVIEW QUESTIONNAIRE

Dear (Insert name),

My thesis will focus on the identification of critical public health human capital needs and their appropriate knowledge base needed to support homeland security. For the purposes of my research, I am defining public health as: individuals (private, volunteers and those funded by a government entity) responsible for safeguarding and enhancing the health of the community in relation to homeland security.

The primary output of my research is of primary importance to support how we prepare our future public health leaders to support the homeland security mission. Below are three questions that I pose that I would like to discuss with you.

1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?
2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?
3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

As I had indicated in our previous correspondence, I anticipate needing approximately 45 minutes of your time. Additionally, all interviewees will be assigned and identified by a specific control number to ensure complete anonymity. Should time permit, I may have a few additional questions or would welcome any of your input regarding public health and its homeland security role.

Sincerely,

David C. Landguth MPH, CHMM
10521 Research Drive, Suite 400
Knoxville, TN 37932
865-974-2447 office
865-712-5932 cell

C2. PUBLIC HEALTH SPECIALIZATIONS AND EDUCATION NEEDS TO SUPPORT HOMELAND SECURITY QUESTIONNAIRE

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Question 5. How do you receive homeland security information pertinent to your region/operations and to whom do to receive direction and speak with regarding questionable reports and critical information?

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Question 8. What are your greatest fears relating to public health and a terrorist event?

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D. SURVEY RESPONSES

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00MD01MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Paramedics/Emergency Medical Technicians	Yes	Considered Frontline
Nurses (Needed in Hospitals and Doctor Offices)	Yes	Considered Frontline
Doctors (Needed in Hospitals and Doctor Offices)	Yes	Considered Frontline
Hospital Administrators	Yes	Considered Frontline
County and State Medical Society Personnel	Yes	
Traditional Public Health Department Personnel	Yes	
Public Health Department Liaison to Physicians	Yes	
Defensive Preparedness Expert	Yes	Needs to be a physician designated in the public health department. Does not recommend Nurse or other specialist as the gravity of the information may not be recognized by those specialists.
Epidemiologists	Yes	

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00MD01MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Paramedics/Emergency Medical Technicians	Normally minimum of high school diploma and 2-year technical degree. These personnel presently drill and have ongoing education regarding homeland security within their present place of employment.	Yes
Nurses (Needed in Hospitals and Doctor Offices)	RN, 2-year certificate/4-year degree or LPN 1-year	No
Doctors (Needed in Hospitals and Doctor Offices)	Medical School	No
Hospital Administrators	Could be business degree and in some cases MPH normally	No
County and State Medical Society Personnel	Composed of Doctors identified above	No
Traditional Public Health Department Personnel	Varies, normally 4-year degree	No. While these personnel may have enhanced awareness associated with issues and threats, the homeland security function may be better performed via a Homeland Security Office
Public Health Department Liaison to Physicians	Needs to be developed	No

Question 2. (continued)

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Defensive Preparedness Expert	Too many competing courses. Standard for these personnel needs to be developed. Personnel should have experience in Basic Disaster Life Support and Advanced Disaster Life Support as a minimum.	No
Epidemiologists	Most have an MPH.	No

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Paramedics/Emergency Medical Technicians	None	Yes	From present employer and many outside entities.
Nurses (Needed in Hospitals and Doctor Offices)	Enhanced awareness training.	No	Integrate into nursing curriculum

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Doctors (Needed in Hospitals and Doctor Offices)	More vital from an awareness standpoint and being able to integrate all incoming information from the scene, intelligence and other information modes in order to make more informed decisions.	No	Integrate into medical programs, develop separate homeland security degree program outside of medical school targeted to the broader public health community support specialists.
Hospital Administrators	Serious problems exist here. These personnel are performing homeland security missions within hospitals that consist of many unfunded mandates. Their primary role is viewed as running their hospital as efficiently as possible so they may keep the doors open. Many hospitals are struggling to stay in business.	No	Perhaps through present commission for accreditation of hospitals.

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
County and State Medical Society Personnel	Not all doctors are members. Enhanced education as described for physicians above.	No	Perhaps training provided through other societies also.
Traditional Public Health Department Personnel	Personnel within the public health community are not traditionally "warfighters". Need personnel with homeland security background.	No	Homeland security detailed personnel or personnel that reside with credentials within the public health department.
Public Health Department Liaison to Physicians	Specialization Needed	No	Degree emphasis or certificate program
Defensive Preparedness Expert	Standard for these personnel needs to be developed. Personnel should have experience in Basic Disaster Life Support and Advanced Disaster Life Support as a minimum.	No	Degree emphasis or certificate program.

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Epidemiologists	These personnel need to be empowered and have the ability to make independent decisions. Most epidemiologists make decisions presently on pre-set decisions based upon syndromic surveillance. Need personnel capable of being able to analyze information and make an analysis.	No	Training integrated into initial degree program

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Vital. This is where education needs to be. This has to be a focus.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Call the health department or CDC. It is not a question of who to notify. Most would consult Infectious Disease (ID) expert for bioterrorism. Police may be difficult to speak with. Will most likely get the majority of the information from the media. Unfortunately, the way most disasters work, the communication received from the scene is normally poor for the purposes of public health.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Nurses need additional training on personal protective equipment. Hospitals should prepare for this via the Emergency Management Subcommittee at their respective hospitals in order to meet joint commission requirement.

Question 8. What are your greatest fears relating to public health and a terrorist event?

We won't be prepared. We won't have enough awareness to respond properly. No preparedness for mass casualties. Once beyond a few hundred casualties then there is no room to house people. Impromptu hospitals will need to be set up. Who will care for these individuals? It may take weeks to months to deal with people exposed to a WMD. It will take 1-2 days to mobilize adequate federal resources. There could be lots of death of many that could be salvaged if basic resources were available to them quickly.

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00GV02FG

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Paramedics/Emergency Medical Technicians	Yes	
Nurses (Needed in Hospitals and Doctor Offices)	Yes	
Doctors (Needed in Hospitals and Doctor Offices)	Yes	
Hospital Administrators	Yes	
Mental Health Personnel	Yes	
Public Health Department Personnel	Yes	
Epidemiologists	Yes	

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00GV02FG

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Paramedics/Emergency Medical Technicians	Normally minimum of high school diploma and 2-year technical degree. These personnel presently drill and have ongoing education regarding homeland security within their present place of employment.	Yes
Nurses (Needed in Hospitals and Doctor Offices)	RN, 2-year certificate/4-year degree or LPN 1-year	No
Doctors (Needed in Hospitals and Doctor Offices)	Medical School	No
Hospital Administrators	Could be business degree and in some cases MPH normally	No
Mental Health Personnel	Could be 4-year degree in psychology/social work or MD	No
Public Health Department Personnel	Varies, normally 4-year degree	No.
Epidemiologists	Most have an MPH	No

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00GV02FG

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Paramedics/Emergency Medical Technicians	None	Yes	From present employer and many outside entities.
Nurses (Needed in Hospitals and Doctor Offices)	Decontamination, personal protective equipment, awareness.	No	Integrate into nursing curriculum or standardized/peer reviewed required continuing education
Doctors (Needed in Hospitals and Doctor Offices)	Decontamination, personal protective equipment, awareness.	No	Integrate into nursing curriculum or standardized/peer reviewed required continuing education
Hospital Administrators	Have limited education. Not a primary role in the mind of most	No	Continuing education or accreditation requirements
Mental Health Personnel		No	Perhaps training provided through other societies also.
Public Health Department Personnel	Limited to non-existent homeland security background within departments	No	Homeland security experience within the public health department.
Epidemiologists	Many have no academic founding. Need more specialty trained/educated personnel	No	Degree emphasis or certificate program

Public Health and Homeland Security
Date: 05/18/2005
Control Number: 00GV02FG

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Doesn't exist to his/her knowledge. Could be beneficial to provide additional education to public health community.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

No answer/NA.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

No answer/NA.

Question 8. What are your greatest fears relating to public health and a terrorist event?

We won't be prepared.

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01PH03L0

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Emergency Response Coordinator	Unknown	Present person for region is an RN with graduate studies
Epidemiologist (MD)	Unknown	Present person is MD
Epidemiologist PhD	Unknown	
Environmental Epidemiologist MPH	Unknown	
Volunteer Coordinator	Unknown	Interfaces between public health and the private practitioners. Organizes volunteers.
Regional Hospital Coordinator	Maybe	This individual, while responsible for knowing how many beds may be available in their region will be housed in the Regional Operations Center in Alcoa, Tennessee in the event of a major emergency. Also responsible for triage of where potential subjects should go via availability of space. Developed by the Tennessee Hospital Association in association with Public Health and the Hospital Advisory Committee. This will be a difficult function to carry out in the event of a major incident since the Regional Hospital Coordinator will be over 100 miles away from their region. Might need more assistance.
RN Consultant	Unknown	RN
Volunteers, MDs, RNs, Administrators, etc.	Yes	Smallpox vaccination 5,000 /day at 7 clinics and 250 workers per clinic per 12 hour shift. They only have enough people to man one clinic for one shift.

Question 1. (continued)

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Public health representatives 1 or 2 per county	Yes	Represents biggest gap/weakest link, these people are the lowest paid and normally have the highest turnover rate. Tracks communicable diseases. Interface with hospitals daily, delivering TB medicine, etc.
Active Public health surveillance	Unknown	Send people out on a weekly basis to hospitals and laboratories, FoodNet is one program that tracks food borne diseases.
Passive Public Health Surveillance	Unknown	Physicians and hospitals report in, MDs, Nurses, epidemiologists
Nurse overseeing Environmental and communicable disease	Unknown	Oversees
Immunizations expert	Unknown	Epidemiology investigations, set up quarantines, Mostly nurses performing an epidemiology function.
Epidemiologist	Unknown	Syndromic Surveillance. Makes contacts with all of the hospitals on collecting data regarding previous day data regarding respiratory distress, rash, fever…

Until things are tested it is hard to tell if they really have gaps. Will have first regional exercise in November.

Adequately staffed for day to day operations but difficult to tell what their needs might be given a catastrophic event.

Have Emergency Response Section and Communicable and Environmental Disease Section.

Can't staff for a major event. For day to day planning and preparedness believe they are adequately staffed.

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01PH03L0

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Emergency Response Coordinator	Presently utilizing an RN	No
Epidemiologist (MD)	Presently utilizing a MD	No
Epidemiologist	MD, PhD or MPH	No
Environmental Epidemiologist	MD, PhD or MPH	No
Volunteer Coordinator	Presently utilizing an RN	No
Regional Hospital Coordinator	Varies, normally 4-year degree	No
RN Consultant	Presently utilizing an RN	No
Volunteers, MDs, RNs, Administrators, etc.	MDs, RNs and administrators	No
Public health representatives	4-year degree	No
Active Public health surveillance	Presently using an RN	No
Passive Public Health Surveillance	Presently using an RN	No
Nurse overseeing Environmental and communicable disease	Presently using an RN	No
Immunizations expert	Presently utilizing an RN	No
Epidemiologist (MD)	Presently utilizing a MD	No

Most on regional level have adequate training. Traditionally public health training did not include emergency response.

Majority of education needs are being served via continuing education. Pre 9/11 public health folks received no homeland security related training.

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01PH03L0

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Emergency Response Coordinator	HAZMAT/HAZWOPER, Incident command system	Yes	TEMA and others
Epidemiologist (MD)	TEMA training, sampling training, Incident command system	Yes	CDC, TEMA and others
Epidemiologist	TEMA training, sampling training, Incident command system	Yes	CDC, TEMA and others
Environmental Epidemiologist	HAZMAT/HAZWOPER, TEMA training, sampling training, Incident command system	Yes	CDC, TEMA and others
Volunteer Coordinator	TEMA training, Incident command system	Yes	TEMA and others
Regional Hospital Coordinator	Incident Command system	Yes	TEMA and others
RN Consultant	Radiation screening, incident command system	Yes	TEMA and others
Volunteers, MDs, RNs, Administrators, etc.	Incident command system	Yes	TEMA and others
Communicable and Environmental Disease Expert	Incident command system	Yes	TEMA and others
Public health representatives	Incident command system	Yes	TEMA and others

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Active Public health surveillance	Incident command system	Yes	TEMA and others
Passive Public Health Surveillance	Incident command system	Yes	TEMA and others
Nurse overseeing Environmental and communicable disease	Incident command system	Yes	TEMA and others
Immunization Expert	HAZMAT/HAZWOPER, Incident command system	Yes	TEMA and others
Epidemiologist (MD)	Incident command system	Yes	TEMA and others

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Would suggest that people become more generalists than specialists. What is really needed is a cross-trained individual. Definitely need incident command training. Would be more useful to have Emergency Response training for public health and hospital administration. Physicians and nurses need awareness training. Public health needs a better understanding of the basics

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Most information comes in through Tennessee Emergency Management Agency (TEMA) or local Emergency management Agencies (EMAs) or Infectious control nurses that are at all hospitals. Communicable disease nurse would verify/validate information with hospitals or possibly bring in a state epidemiologist to assist with questionable reports.

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01PH03L0

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Could possibly get into a situation like that. Homeland Security bioterrorism money is presently helping to pay for a majority of the homeland security aspects.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

It wouldn't be terrorism, it would be the next influenza pandemic

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01RN04L0

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Regional Hospital Coordinator	Maybe	
RN (Vital Disposition of Patients)	No	All information tracked manually. Biggest concern of tracking patterns. Also, don't use Internet to report issues.
Infection Control Officer	No	
Education and training representative	Yes	Represents biggest gap/weakest link, these people are the lowest paid and normally have the highest turnover rate. Tracks communicable diseases. Interface with hospitals daily, delivering TB medicine, etc.
Public relations (medical)	Yes	

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Regional Hospital Coordinator	RN/4-year degree, hospital background	Yes
RN (Vital Disposition of Patients)	RN	Yes
Infection Control Officer	Could be AA, BA,BS,MPH,RN, certification requirements	Yes
Education and training representative	4 year degree	No
Public relations (medical)	4 year degree	No

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01RN04L0

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Regional Hospital Coordinator	Homeland Security Generalist	No	?
RN (Vital Disposition of Patients)	Decontamination of patients/personnel	Yes	Part of HRSA grant and exercises to be conducted by homeland security
Infection Control Officer	Certification	Yes	National governing body
Education and training representative	Homeland Security Generalist		?
Public relations (medical)	Homeland Security Generalist		?

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Believe it would be useful.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Regional hospital coordinator, JCAHO may send out alerts, weekly bulletins from CDC. Rely on the regional hospital coordinator to validate questionable reports.

Public Health and Homeland Security
Date: 06/07/2005
Control Number: 01RN04L0

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Really don't know. For example, am aware of what my contribution is in response to a terrorist or natural disaster but not familiar with the entire plan that has been developed.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

JCAHO requirements for drills but these only have to be disaster drills. HRSA bioterrorism funding specifies amounts of equipment required for personnel and required to implement hospital ICS (incident command system) training in order to receive funding for equipment.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Lack of early detection and mass panic. Will staff be able to recognize hazard?

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03PH05MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	**Workforce Gaps (yes/no)**	**Other Comments**
Emergency Response Coordinator	No	
Epidemiologists	No	
Volunteers (95% non-medical)	No	2500 volunteers, serve as security monitors, management of traffic, also 5% of volunteers are medically oriented (nurses, doctors, pharmacists)
Volunteer Coordinator	No	
Nurse trainer	No	Position not consistent throughout the state, used nurse so they could handle the clinical aspects of training, broader training in scope of emergency preparedness
Regional Hospital Coordinator	No	Potential issue, how does this position relate to emergency medical services? Not clear where the line is with respect to roles/responsibilities
Environmental Scientists	No	
Dedicated emergency management staff for hospitals	Yes	Missing at small to mid-size hospitals

None of their positions are tied to a grant as far as the subject knows.

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03PH05MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Emergency Response Coordinator	MPH or PH or Emergency Management	No
Epidemiologists	MPH, PH, or specialty degree/certification	No
Volunteers (95% non-medical)	Varied	No
Volunteer Coordinator	4-year degree, specifically look for a background and work experience associated with volunteer programs	No
Nurse trainer	RN, 4-year degree with professional background in training	No
Regional Hospital Coordinator	Nursing and hospital experience	No
Environmental Scientists	Environmental 4-year degree	No
Dedicated emergency management staff for hospitals	RN	No

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03PH05MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Emergency Response Coordinator	Online NIMS and ICS and awareness training	Yes	Training available from a variety of sources but there are problems. Suggests there needs to be a 4-year degree path with more emphasis on homeland security or the potential for an advanced degree with a concentration in homeland security. There needs to be a more universal means of identifying the training.
Epidemiologists	Online NIMS and ICS and awareness training	Yes	Same
Volunteers (95% non-medical)	Online NIMS and ICS and awareness training	Yes	Same
Volunteer Coordinator	Online NIMS and ICS and awareness training	Yes	Same
Nurse trainer	Online NIMS and ICS and awareness training	Yes	same
Regional Hospital Coordinator	Online NIMS and ICS and awareness training	Yes	Same

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Environmental Scientists	Online NIMS and ICS and awareness training	Yes	Same
Dedicated emergency management staff for hospitals	Online NIMS and ICS and awareness training	Yes	Same

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Extraordinarily valuable. One of the major constraints for people to receive an advanced degree is time. It would be most useful if the majority would be available online.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

List serves, SNS list serve, DMAT, Tennessee Department of Health. Resolve questionable reports and critical information from immediate supervisor and Tennessee Department of Health.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No, the new competencies they teach are emergency preparedness.

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03PH05MT

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

1 hour ICS, SNS represents 4 hours annually that public health previously didn't receive nor was required to complete. Federal compliance relating to the number and types of exercises to complete. Public health is expected to be at the EOC, it was not that way 5 years ago. Write all required plans. New employee building and community orientation integrated into regular training.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Are we adequately prepared?

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03RN06MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Emergency Response	No	
Disaster preparedness	No	
Fire	No	
Law enforcement	No	
Infection control	No	Well trained for bio
Chemical and radiological identification experts	Yes	Need more awareness of and identification and treatment training
Explosives treatment	Yes	
Emergency response coordinators for hospitals	Yes	Not a requirement for hospitals
Epidemiologists	No	
Health consultant working with law enforcement	Yes	

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03RN06MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Emergency Response	Needs to be standardized. No standardization of education.	No
Disaster preparedness	Needs to be standardized. No standardization of education	No
Fire	Needs to be standardized. No standardization of education	No
Law enforcement	Needs to be standardized. No standardization of education	No
Infection control	Direct founding in bio agents.	No
Chemical and radiological identification experts	Chemical is viewed as the biggest void. Should establish coursework early in residency training then culminating in instructor credentials upon completing residency. This would allow these MDs to go out into the community and teach.	No
Explosives treatment	Enhancement to medical training. Most doctors don't have adequate training regarding treatment for patients that have suffered from explosives incidents	No
Emergency response coordinators for hospitals	RN	No
Epidemiologists	MPH,PH and/or certification	No
Health consultant working with law enforcement	Could be RN, MD, EPI	No

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03RN06MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Emergency response		Yes	
Disaster preparedness		Yes	
Fire	Average fire fighter should have some CBRNE awareness training	Yes	ODP, the major problem is time. Most of these folks are poorly paid and work 2 jobs to make ends meet. Training should come to them and be a part of their job.
Law enforcement	Average patrol officer should have some CBRNE awareness training	Yes	ODP, the major problem is time. Most of these folks are poorly paid and work 2 jobs to make ends meet. Training should come to them and be a part of their job.
Infection control		Yes	
Chemical and radiological identification experts		No	Integrated into medical program
Explosives treatment		No	Integrated into medical program
Emergency response coordinators for hospitals		No	
Epidemiologists		Yes	Variety of 4-year plus degrees and national certification

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Health consultant working with law enforcement		No	

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Very valuable. These people will be labeled and identified as a resource person. Physicians have lagged way behind with respect to homeland security.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Information obtained through the Tennessee Hospital Association, Joint Commission list serve. Questionable reports may be discussed with the Tennessee Hospital Association. Many times because of security reasons potential threats can't be identified to the public health community because of operational sensitivity. Lack of security clearances for public health community inhibits awareness and collaboration.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. We have put so much money into public health and many people are new.

Public Health and Homeland Security
Date: 06/08/2005
Control Number: 03RN06MT

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Few requirements required for hospitals. Joint Commission has compliance requirements for drills but they are not "homeland security" drills. Health Resources Services Administration (HRSA) from the department of Health and Human Services has developed some requirements for hospitals that are necessary for the hospitals to receive grant funding. CDC has developed best practices for first receivers. Hospitals are grossly under funded for what they have been asked to do.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Weakness is security. Hospitals will find a way to manage patient care but security and safety of personnel and patients is of prime concern.

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 02RN07MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
EPA water quality	Yes	
EPA air quality	Yes	
Red cross preparedness, response, recovery	Yes	
911 dispatch arena	Yes	
Small volunteer fire departments	Yes & No	
Metro fire response (hazmat, etc.)	Yes	
Ambulance service (private and public)	Yes	
Volunteer rescue service providers	No	
Health department bioterrorism	Yes	
Health department nurses	Yes	
Health department administration	Yes	
Nursing (Hospitals)	Yes	
Radiation oncologists	Yes	
Surgeons	No	
Respiratory therapists	Yes	
ER physicians	No	
Hospital safety officers	Yes	
Specialized event persons for fire departments	Yes/No	
Hospital education and training	No	
Environmental Health Specialists	Yes	
Public information officers	No	

Question 1. (continued)

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Radiological assessment program teams	No	
Public health nurses in schools	Yes	
Mental health specialists	Yes	

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
EPA water quality	4-year degree	No
EPA air quality	4-year degree	No
Red cross preparedness, response, recovery	Varied, from PhDs, MDs, RNs, MPHs, Administrative, physiological experts	No
911 dispatch arena	?	No
Small volunteer fire departments	Specialized schooling and on the job training	Yes
Metro fire response (hazmat, etc.)	Specialized schooling and on the job training	Yes
Ambulance service (private and public)	High school	Yes
Volunteer rescue service providers	Varied from administrative to medical	No
Health department bioterrorism	4-year	No
Health department nurses	4 year	No
Health department administration	?	No
Nursing (Hospitals)	4-year	No
Radiation oncologists	Medical degree	Yes
Surgeons	Medical degree	No

Question 2. (continued)

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Respiratory therapists	Medical degree	No
ER physicians	Medical degree	No
Hospital safety officers	4-year degree and above	Yes
Specialized event persons for fire departments	Specialized schooling	Yes
Hospital education and training	4-year degree and above	No
Environmental Health Specialists	4-year degree and above	No
Public information officers	4-year degree and above	No
Radiological assessment program teams	4-year degree and above	Yes
Public health nurses in schools	2 –year degree and above	No
Mental health specialists	4-year degree and above	No

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 02RN07MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
EPA water quality	NIMS, ICS, basic awareness and a variety of other training already in existence	Yes	Major problems associated with training from others: where and how do they access and at what cost?, somewhere there needs to be a clearinghouse of homeland security training that has been peer reviewed and "sanctioned" by DHS/HHS, need consistency associated with training, too many fly by night outfits offering training with varying degrees of completeness, indicates lack of leadership and vision from above
EPA air quality	Same	Yes	Same
Red cross preparedness, response, recovery	Same	Yes	Same
911 dispatch arena	Same	Yes	Same

Question 3. (continued)

Small volunteer fire departments	Same	Yes	Same
Metro fire response (hazmat, etc.)	Same	Yes	Same
Ambulance service (private and public)	Same	Yes	Same
Volunteer rescue service providers	Same	Yes	Same
Health department bioterrorism	Same	Yes	Same
Health department nurses	Same	Yes	Same
Health department administration	Same	Yes	Same
Nursing (Hospitals)	Same	Yes	Same
Radiation oncologists	Same	Yes	Same
Surgeons	Same	Yes	Same
Respiratory therapists	Same	Yes	Same
ER physicians	Same	Yes	Same
Hospital safety officers	Same	Yes	Same
Specialized event persons for fire departments	Same	Yes	Same
Hospital education and training	Same	Yes	Same
Environmental Health Specialists	Same	Yes	Same
Public information officers	Same	Yes	Same
Radiological assessment program teams	Same	Yes	Same
Public health nurses in schools	Same	Yes	Same
Mental health specialists	Same	Yes	Same

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 02RN07MT

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Awesome. Would be very interested in attending such a program. Believes there are many hidden untapped talents in public health that would be of value to homeland security.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

State EMS. Would funnel information back to state EMS or TEMA.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. We are focusing too much on crime scene access.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

Water contamination. This would require the integration of public health and water quality and environmental health expertise. Believes these two areas are lacking the most with respect to personnel and education.

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 06PH08LO

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Hospital Coordinator	No	
Emergency Response Coordinator	No	
Volunteer Coordinator	No	
Nurse Consultants	No	
Network Specialist	No	
Volunteers	Yes	Challenge is they really don't know how many they have or how many would show up. Mass casualty or vaccination event they need to plan for 7 clinics to be set up. Need to staff with 100 people per shift. If all public health personnel pulled in from district area they may be able to staff each clinic with 30 public health personnel.
Physicians (private sector)	No	
Emergency Room Physicians	Yes	Potential surge capacity issue
Nurses (private sector)	No	
Ambulance service	No	
Emergency medical technicians	No	
Paramedics	No	
Public Health Department Physicians	Yes	Don't have enough to staff clinics, only have two. In event of event they will have to rely on public health nurses or medical volunteer from community to staff clinic.
Public Health Department Nurses	Yes	Have capability to hire but problems relating to compensation, living in a rural area and recruiting represents problem.

Question 1. (continued)

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Epidemiologists	Yes	Still need to employ one. Same problems as with nurses above.
Triage support	Yes	

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 06PH08LO

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Hospital Coordinator	4-year degree plus 5 years experience	No
Emergency Response Coordinator	Masters degree preferred with related experience	No
Volunteer Coordinator	4-year degree	No
Nurse Consultants	4 –year nursing degree	No
Network Specialist	4-year	Yes
Volunteers	Varied, from PhDs, MDs, RNs, MPHs, Administrative, physiological experts. Annual training (awareness) is optional. Have just in time training, volunteers have opportunity to go to clinics they would be supporting	No
Physicians (private sector)	Medical school	No
Emergency Room Physicians	Medical school	No
Nurses (private sector)	Varied from administrative to medical	No
Ambulance service	GED and drivers license	No
Emergency medical technicians	Specialized training	No
Paramedics	Specialized training	No
Public Health Department Physicians	Medical degree	No
Public Health Department Nurses	4-year nursing degree	Yes
Epidemiologists	4-year plus	No
Triage support	Nursing and above	No

Physicians are working with Tennessee Hospital Association to develop training programs.

Ambulance service needs more formal training.

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 06PH08LO

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Hospital Coordinator	NIMS, more opportunities to drill and practice across the state. Need to understand how homeland security integrates with public health. Need to be trained to be useful to emergency based upon specific discipline. Need technical and awareness training.	Yes	Major problems associated with training from others: how much do you want to pay? where are peer reviewed and accredited training opportunities offered, no standardization. All training is geared more towards continuing education
Emergency Response Coordinator	Same	Yes	Same
Volunteer Coordinator	Same	Yes	Same
Nurse Consultants	Same	Yes	Same
Network Specialist	Same	Yes	Same
Volunteers	Same	Yes	Same
Physicians (private sector)	Same	Yes	Same
Emergency Room Physicians	Same	Yes	Same
Nurses (private sector)	Same	Yes	Same
Ambulance service	Same, starving for education	Yes	Same
Emergency medical technicians	Same	Yes	Same
Paramedics	Same	Yes	Same

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Public Health Department Physicians	Same	Yes	Same
Public Health Department Nurses	Same	Yes	Same
Epidemiologists	Same	Yes	Same
Triage support	Same	Yes	Same

Tennessee State Board of nursing is now requiring response to public emergencies as part of the TN State Board Exam.

Physicians are asking for more training.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Great! This type of program is overdue.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Homeland security and TEMA area coordinators. Go to immediate supervision to resolve.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. Imposing on ability to conduct normal activities.

Public Health and Homeland Security
Date: 06/14/2005
Control Number: 06PH08LO

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

People become ill and we are not able to deliver treatment in time.

Public Health and Homeland Security
Date: 06/27/2005
Control Number: 99GV09FG

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
State Epidemiologist	Yes	
State Sanitarian	Yes	Lots of manpower needed
State Hospital Bioterrorism Coordinator	Yes	Dedicated people that are terribly overworked
State CDC Grants Oversight	Yes	
State/Local Medical Director	Yes/No	State level ok, locals are hurting, sometimes medical director is a nurse
Administrators	Yes	State level ok but need more support on local levels
Public health representative to agriculture	Yes	Many places need this role, probably won't happen universally until there are dead bodies
Local public health sanitarians	Yes	
Local public health medical specialists	Yes	
Laboratories	Yes	
Outreach Coordinators/Educators	Yes	
Pharmacists to manage stockpiles (SNS etc)	Yes	
Disaster Medical Assistance Teams	No	Transfer from DHHS to DHS has put them into never land
Volunteers	No	
Logistics (federal)	Yes	Management of activities severely lacking
Grants personnel (federal)	Yes	Management of activities severely lacking
Policy makers	Yes	Management of activities severely lacking, all seem to lack vision and understanding of impending public health crisis relating to terrorist event
MMRS	No	Management of activities severely lacking

Public Health and Homeland Security
Date: 06/27/2005
Control Number: 99GV09FG

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
State Epidemiologist	4-year degree or aspect incorporated into complimentary degrees, public health, nursing, etc.	No
State Sanitarian	2-4-year degree	No
State Hospital Bioterrorism Coordinator	4-year degree, come from nursing, epidemiology and even paramedics	No
State CDC Grants Oversight	Normally set up as an "other duties as assigned position)	No
State/Local Medical Director	Medical School	No
Administrators	Masters degree program or physician	No
Public health representative to agriculture	Could be Masters degree program or physician	No
Local public health sanitarians	2-4-year degree	No
Local public health medical specialists	Medical school	No
Laboratories	Associates and above medical technologists	No
Outreach Coordinators/Educators	No position as such throughout country so the education people have varies. This is normally another as part of other duties assigned position	No
Pharmacists to manage stockpiles (SNS etc)	Pharmacy	No
Disaster Medical Assistance Teams	Logisticians, administrators, nurses, medical degree, varies also by how team is managed and the strength or weakness of the training coordinator	No
Volunteers	Varies from administrative clerical to physicians	No
Logistics (federal)	4-year plus	No

Question 2. (continued)

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Grants personnel (federal)	4-year plus	No
Policy makers	4-year plus	No
MMRS	4 year through medical degree	No

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
State Epidemiologist	See comment at end	Yes	Major problems associated with training: No real standardized curriculums, no standards, needs to be developed at a national level and brought down to states to implement.
State Sanitarian	Same	Yes	Same
State Hospital Bioterrorism Coordinator	Same as well as extensive hospital provider training	Yes/No	Same and limited training provided from specialists
State CDC Grants Oversight	Same	Yes	Same

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
State/Local Medical Director	Same	Yes	Same
Administrators	Same	Yes	Same
Public health representative to agriculture	Same	Yes	Same
Local public health sanitarians	Same	Yes	Same
Local public health medical specialists	Same	Yes	Same
Laboratories	Same	Yes	Same
Outreach Coordinators/Educators	Same	Yes	Same
Pharmacists to manage stockpiles (SNS etc)	Same	Yes	Same
Disaster Medical Assistance Teams	Same	Yes	Same
Volunteers	Same	Yes	Same
Logistics (federal)	Same	Yes	Same
Grants personnel (federal)	Same	Yes	Same
Policy makers	Same	Yes	Same
MMRS	Same	Yes	Same

Need a tiered training program for public health that would be based upon roles, responsibilities/specializations. The training for public health has been geared traditionally towards use of continuing education.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Extremely valuable. We should be turning out people with high-level credentials. Problem now is education is not cohesive and standardized.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

N/A

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. We don't have enough public health foot soldiers to do the day to day work.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

Lack of human resource infrastructure. Surge capacity is discussed but we are robbing from Peter to pay Paul.

Public Health and Homeland Security
Date: 07/09/2005
Control Number: 02MD10MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Planners	Yes	Especially needed at regional/local levels
Personnel who implement plans	Yes	Lots of manpower needed
Epidemiologists	No	
First responders from Public health department to investigate disease outbreaks	Yes	Need more and better trained to specifically be able to focus on identification of terrorism related event
Hospital Administration	No	Needs to be educated to the threat. More interested in bottom line profit line.
Nurses (normally risk-assessment types)	Yes	Don't have these people
Preparedness Coordinators (Nurses)	Yes	Don't have these people
Medical Doctors	Yes	
Medical Directors	Yes	
Emergency Medical Service	Yes	State EMS directors reluctant to extend scope of practice for Paramedics and EMTs. Ongoing training and recertification costly. This is perceived as a huge gap that must be addressed. EMS, as the first responder is viewed to be the most likely to be the first casualties. Least money has been put into this group.

Public Health and Homeland Security
Date: 07/09/2005
Control Number: 02MD10MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Planners	4-year degree or aspect incorporated into complimentary degrees, public health, nursing, etc.	No
Personnel who implement plans	4-year degree or aspect incorporated into complimentary degrees, public health, nursing, etc.	No
Epidemiologists	4-year degree and/or certification	No
First responders from Public health department to investigate disease outbreaks	4-year degree or aspect incorporated into complimentary degrees, public health, nursing, etc.	No
Hospital Administration	4-year degree or aspect incorporated into complimentary degrees, public health, nursing, or could be graduate degree such as MBA or MPH	No
Nurses (normally risk-assessment types)	Nurses 4-year degree	No
Preparedness Coordinators (Nurses)	Nurses 4-year degree	No
Medical Doctors	Medical School	No
Medical Directors	Medical School	No
Emergency Medical Service	GED or Associates and above	No

Public Health and Homeland Security
Date: 07/09/2005
Control Number: 02MD10MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Planners	See comment at end	No	Major problems associated with training: No real standardized curriculums, no standards, needs to be developed at a national level and brought down to states to implement.
Personnel who implement plans	Same	No	Same
Epidemiologists	Same	Yes/No	Same
First responders from Public health department to investigate disease outbreaks	Same	No	Same
Hospital Administration	Same	No	Same
Nurses (normally risk-assessment types)	Same	No	Same
Preparedness Coordinators (Nurses)	Same	No	Same
Medical Doctors	Same	No	Same
Medical Directors	Same	No	Same
Emergency Medical Service	Same	No	Same

Public Health and Homeland Security
Date: 07/09/2005
Control Number: 02MD10MT

Need a tiered training program for public health that would be based upon roles, responsibilities/specializations. The training for public health has been geared traditionally towards use of continuing education. There are many training offerings but there are no standardization/peer review/uniformly acceptable standards. To the extent possible, much of this education should be integrated into existing college curriculums.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Needed. No question about it. Hospital administrators, nurses, manager, and medical doctors would benefit from such a program. Program needs to consider utilizing as much distance learning as possible as many of these professionals do not have time to go back to school.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Television, CDC bulletins, MMWR. Limited information obtained on the public side. Not getting what we need. Medical doctors are not getting anything.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Impacted, but not necessarily negative impact. There are more people that are energized; the mindset of people has changed. More people are engaged and lots of what we are doing is dual use.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

No

Question 8. What are your greatest fears relating to public health and a terrorist event?

Superbug

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 99GV11FG

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Veterinarians	Yes	
Epidemiologists	Yes	
Physicians	No	Plenty of physicians available but most have no background relating to homeland security
Law Enforcement	Yes	
Emergency Medical Service (Ambulance, EMTs and Paramedics)	Yes	
Fire	Yes	
Mental health	Yes	
Toxicologists	Yes	
Environmental Sampling	Yes	
Forensics Experts	Yes	

Believes 70% of first responders are not qualified with some of the basics of training such as 40 Hazwoper training via 29CFR 1910.120.

Many don't understand the difference between environmental and forensics sampling and the different skill sets and training required

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Veterinarians	DVM	No
Epidemiologists	4-year degree and/or on the job experience	No
Physicians	Medical School	No
Law Enforcement	Law enforcement academy, 2-4 year degrees	No
Emergency Medical Service (Ambulance, EMTs and Paramedics)	GED, 2-4 year degree and specialized training	No
Fire	GED, 2-4 year degree and specialized training	No
Mental health	4-year degree in psychology, social work and above	No
Toxicologists	4-year degree and above	No
Environmental Sampling	2-year degree and up	No
Forensics Experts	2-year degree and up combined with specialized and on the job training	No

No standardized training.

Hospitals should become more involved.

No clearances for public health.

Surge capacity can be overwhelmed with relative ease.

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Veterinarians	See comment at end	No	Major problems associated with training: No real standardized curriculums, no standards. See additional comments.
Epidemiologists	Same	No	Same
Physicians	Same as well as extensive hospital provider training	No	Same
Law Enforcement	Same	No	Same
Emergency Medical Service (Ambulance, EMTs and Paramedics)	Same	No	Same
Fire	Same	No	Same
Mental health	Same	No	Same
Toxicologists	Same	No	Same
Environmental Sampling	Same	No	Same
Forensics Experts	Same	No	Same

Awareness training is abundant but it isn't focused.

Major gaps in the training relates to public health, NIMS, forensics, decontamination and personal protective equipment especially with law enforcement.

No depth behind to give people what they need.

No prerequisites are required for most of the training.

Question 3. (continued)

Taking much of the pre-established DOD training and transferring it to the private sector would be beneficial.

Major problem associated with education is that there is no structured road map.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

A lot of merit for such a program. Professionals need to understand methodology relating to homeland security. Would be very astute to consider such a program.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Involved with several task forces in the District of Columbia. Most everything is run through the HSOC.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Is still evolving. Needs to mimic the National Response Plan.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Lack of understanding. For instance, CDC providing conflicting information on what was and wasn't safe regarding anthrax. Much of the text that is circulating regarding preparing and or responding to threats are only 60-70% accurate regarding how things are managed in a real world situation.

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 05MD12MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Bio-planning relating to emerging infections	No	
Epidemiologists	No	
Disease Investigators	No	
Veterinary Medicine	No	
Regional Hospital Coordinators	No	Funded by state but work for regional/local. This is a new and evolving position
Emergency Response Coordinators (Public health departments)	No	Public health departments assume a "hands off" position and move away from chemical and radiological issues. These they turn over to fire and law enforcement. Happy to deal with biological, this is what they have dealt with for years. Significant issue!
Law Enforcement	No	
Fire	No	
Emergency Medical Service (EMTs, Paramedics and Ambulance)	No	
Environmental Engineers	No	
Mental Health	No	
Transportation/logistics	No	
Red Cross	No	
Patient/Personnel movement and tracking specialists	No	

Believes we don't necessarily have workforce gaps. We can't have enough people to plan for high consequence/low probability events. Significant problem that exists is the integration of all of these specialties, especially public health and the healthcare community.

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Bio-planning relating to emerging infections	4-year degrees plus	No
Epidemiologists	4-year degrees plus	No
Disease Investigators	4-year degrees plus	No
Veterinary Medicine	DVM	No
Regional Hospital Coordinators	4-year degree with a background in hospital operations	No
Emergency Response Coordinators (Public health departments)	4-year degrees plus with backgrounds in emergency management	No
Law Enforcement	GED, 2-4 year degrees and specialized training	No
Fire	GED, 2-4 year degrees and specialized training	No
Emergency Medical Service (EMTs, Paramedics, Ambulance)	GED, 2-4 year degrees and specialized training	No
Environmental Engineers	4-year degrees plus	No
Mental Health	4 year degrees plus, psychology and social work, etc.	No
Transportation/logistics	4-year degrees plus	No
Red Cross	Volunteers and varied backgrounds	No
Patient/Personnel movement and tracking specialists	No response	No

No standardized training.

Major problem with training and education presently is “they don’t know what they don’t know”.

Systems and training associated with tracking and planning systems regarding where patients need to go is critical.

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Bio-planning relating to emerging infections	See comment at end	No	Major problems associated with training: No real standardized curriculums, no standards. See additional comments. Government entities should sponsor training.
Epidemiologists	Same	No	Same
Disease Investigators	Same	No	Same
Veterinary Medicine	Same	No	Same
Regional Hospital Coordinators	Same	No	Same
Emergency Response Coordinators (Public health departments)	Same	No	Same
Law Enforcement	Same	No	Same
Fire	Same	No	Same
Emergency Medical Service (EMTs, Paramedics and Ambulance)	Same	No	Same
Environmental Engineers	Same	No	Same
Mental Health	Same	No	Same
Transportation/logistics	Same	No	Same
Red Cross	Same	No	Same
Patient/Personnel movement and tracking specialists	Same	No	Same

Question 3. (continued)

Multidisciplinary training needs to be created and homeland security dollars need to be tied with this. Too much emphasis and dollars has been spent on only training law enforcement and fire personnel. Federal, state and local governments should not fund training that is not multidisciplinary.

Need volunteer credentialing training.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Probably not as big an impact as many might believe. What could be done with this? Would people graduating from this type of program really be in a position to make change? This type of program may be useful for Emergency Response Coordinators and Hospitals.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

N/A

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. Too many people have been working on preparing for "specialty" responses. Much work being done on mass prophylaxis clinics versus practicing with normal vaccines that could be provided by clinics. Much of this has resulted in "robbing Peter to pay Paul". Communication needs to be improved.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Has not specifically been developed by organization yet. There has been some awareness training required by JACCHO.

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 05MD12MT

Question 8. What are your greatest fears relating to public health and a terrorist event?

N/A

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 02PH13MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	**Workforce Gaps (yes/no)**	**Other Comments**
Medical Officer	Yes/No	Under normal operating conditions workforce is suitable. Capacity is a problem. Surge capacity is a major issue because there is none.
Hospital Coordinator	Yes/No	Same
Environmental Epidemiologist	Yes/No	Same
Bioterrorism Coordinator	Yes/No	Same
Volunteer Coordinator	Yes/No	Same
Emergency Response Coordinator	Yes/No	Same
Nurses	Yes/No	Same
Nurses (Education and Training)	Yes/No	Same
Infection Control	Yes/No	Same
Physicians	Yes/No	Same
Laborers	Yes/No	Same

Believes there is actually more work than people relating to public health and homeland security.

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Medical Officer	MD	No
Hospital Coordinator	Bachelors or Masters degree	No
Environmental Epidemiologist	Bachelors or Masters degree	No
Bioterrorism Coordinator	Bachelors or Masters degree	No
Volunteer Coordinator	Bachelors or Masters degree	No
Emergency Response Coordinator	Bachelors or Masters degree	No
Nurses	Bachelors or Masters degree	No
Nurses (Education and Training)	Bachelors or Masters degree	No
Infection Control	Bachelors or Masters degree	No
Physicians	MD	No
Laborers	Miscellaneous	No
Emergency Medical Service (Paramedics, EMTs and Ambulance)	GED and above as well as specialized training	No

No standardized training.

No “applied training” is readily available that has the seal of approval from homeland security.

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Medical Officer	See comment at end	No	Office for Domestic Preparedness (ODP) should be supporting the development and delivery of this type of training.
Hospital Coordinator	Same	No	Same
Environmental Epidemiologist	Same	No	Same
Bioterrorism Coordinator	Same	No	Same
Volunteer Coordinator	Same	No	Same
Emergency Response Coordinator	Same	No	Same
Nurses	Same	No	Same
Nurses (Education and Training)	Same	No	Same
Infection Control	Same	No	Same
Physicians	Same	No	Same
Laborers	Same	No	Same
Emergency Medical Service (Paramedics, EMTs and Ambulance)	Same	No	Same

There needs to be more management and supervisory training. There needs to be additional specialized hazards prevention, response, recovery and identification training. It's difficult for many of the people in the public health community to get the training they need which is the next level above continuing education. Believes that graduate offerings, whether they are courses or entire curriculum, need to be offered online so those working in public health can participate.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

No question about the value of such a program. Definitely needed. Based upon the time it takes to receive a graduate degree would suggest that the education be developed more modularly so that one could take the course at their own pace. For it to be valuable and have the potential to reach the most number of people that would be interested in the education, the program needs to be online.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

CDC bulletin and Biodefense CBN bulletins. Presently not on anyone's list as far as alerts. If emergency management gets the information they rarely share it. Additionally, law enforcement rarely shares with public health. The fire service, on the other hand, works extremely well with public health.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes as far as planning goes. It has changed the way public health looks at things from the biological end. Public health has begun to take on many things they had never been responsible for.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

None

Question 8. What are your greatest fears relating to public health and a terrorist event?

The response of the public because we aren't ready from a public health perspective.

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 02MD14MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Poison Control	Yes/No	Public health response is not well designed and has not been well thought out. Most aren't equipped with knowledge or experience to handle multi-hazards approach.
Public health staff	Yes/No	Same
Emergency Medicine Staff	Yes/No	Same
All hazards specialists	Yes/No	Same
Fire	Yes/No	Same
Emergency medical service	Yes/No	Same
Law enforcement	Yes/No	Same
Toxicologists	Yes/No	Same
Radiation experts	Yes/No	Same
Radio oncologists	No	Same
Nuclear medicine	No	Same
Hematology	Yes/No	Same
Emergency planners	Yes/No	Same
Nursing	Yes/No	Same
Emergency management	Yes/No	Same

Under normal operating conditions workforce is suitable. Capacity is a problem. Surge capacity is a major issue because there is none.

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 02MD14MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Poison Control	?	No
Public health staff	Varies by discipline, epidemiology, biostatistics, public health, social work, administrative and management. 4-year degrees plus.	No
Emergency Medicine Staff	MD, Nursing, Administrative	No
All hazards specialists	Varied from 2-year to PhDs	No
Fire	Specialized training	No
Emergency medical service	Specialized training	No
Law enforcement	Specialized training	No
Toxicologists	4-year degree plus	No
Radiation experts	4-year degree plus and some with certification as CHPs	No
Radio Oncologists	MDs	No
Nuclear medicine	Technicians through MDs	No
Hematology	?	No
Emergency planners	Varied ranging from 4-year degree up	No
Nursing	2-year degree up	No
Emergency management	Varied ranging from 4-year degree up	No

Public Health and Homeland Security
Date: 07/07/2005
Control Number: 02MD14MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Poison Control	See comment at end	No	See comment at end
Public health staff	Same	No	Same
Emergency Medicine Staff	Same	No	Same
All hazards specialists	Same	No	Same
Fire	Same	No	Same
Emergency medical service	Same	No	Same
Law enforcement	Same	No	Same
Toxicologists	Same	No	Same
Radiation experts	Same	No	Same
Radio Oncologists	Same	No	Same
Nuclear medicine	Same	No	Same
Hematology	Same	No	Same
Emergency planners	Same	No	Same
Nursing	Same	No	Same
Emergency management	Same	No	Same

Additional education suggested: Advanced disaster life support, leadership training. Education should be provided by the American Medical Association, American College of Medical Toxicologists, American College of Emergency Physicians and the American Society for Therapeutic Radiology and Oncology as examples. Much of the problem is related to a system that is not well designed and thought out and a lack of leadership. Much of the training designed should consider a multi-lingual approach. There is some very good training available for first-receivers from REAC/TS (Radiation Emergency Assistance Center Training Site.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

This would be an excellent offering for the emergency medical community.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

There is no leader in the field for this information. There are numerous websites with questionable material and many with excellent material. How does one decipher the good from the bad? No standardization.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. We should be utilizing a risk-based approach.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

We would not be prepared. Not concerned about a radiological/nuclear threat. More concerned about an infectious disease or environmental insult.

Public Health and Homeland Security
Date: 8/04/2005
Control Number: 99GV15FG

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Medical Doctors	Yes	
Fire	Yes	
Law	Yes	
Safety Specialists	Yes	
Toxicologists	Yes	
Emergency Medical Service (EMTs, Paramedics and Ambulance)	Yes	
Coast Guard	Yes	
Transportation and shipping	Yes	
Planners	Yes	
Radiation experts	Yes	
Biological experts	Yes	
Nurses	Yes	
Emergency Medicine Doctors	Yes	
Epidemiologists	Yes	
Public Health Service	Yes	
Industrial Hygiene	Yes	
Modelers	Yes	
Meteorology	Yes	

Public Health and Homeland Security
Date: 8/04/2005
Control Number: 99GV15FG

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Medical Doctors	Medical degree, most don't get enough specialized training	No
Fire	Specialized training, nuclear, chemical and biological training could be improved	Yes
Law	Specialized training, nuclear, chemical and biological training could be improved	Yes
Safety Specialists	4-year degree and on-the-job training, specialization as a Certified Safety Professional would be helpful	Yes
Toxicologists	4-year degree plus on-the-job training	Yes/No (If these people are working the field they studied normally competent, those who have not are lacking.
Emergency Medical Service (EMTs, Paramedics and Ambulance)	Specialized training	Yes
Coast Guard	Most activities accomplished by enlisted personnel and they have	Yes
Transportation and shipping	Most activities accomplished by enlisted personnel and they have	Yes
Planners	4-year degree plus emergency management background	Yes (most experience gained from on-the-job)
Radiation experts	Health Physics, Health Physics Technicians, Radiation Worker Qualifications, Nuclear Engineering	No (deficient)

Question 2. (continued)

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Biological experts	Most are working with the Army, the Public Health Service, National Center for Infectious Diseases or the Center for Disease Control	Yes
Nurses	2-year and above degrees	No
Emergency Medicine Doctors	Medical degrees, not specialized	No
Epidemiologists	4-year degrees and above	Yes/No (Those that are working in the field they studied are probably ok. Those coming out of school with no work experience probably not.)
Public Health Service	4-year degrees and above	Yes
Industrial Hygiene	2-year degrees and above	Yes/No (Those with a Masters degree and above are probably ok, those below probably not).
Modelers	Computer Science	Yes (Must stay abreast of changing technology)
Meteorology	4-year degree and above	No

Public Health and Homeland Security
Date: 8/04/2005
Control Number: 99GV15FG

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Medical Doctors	Toxicology, most of education is on biological and more emphasis needs to be placed on chemical and radiation	Yes	Training and education is available but is not presently available for civilians to obtain. A great deal of the training that needs to be provided to civilians to teach them how to deal with these events from an operational standpoint has been developed and utilized by the U.S. Army for years. Fire departments may be able to provide some of the training relating to personal protective equipment and decontamination. More homeland security related training should be integrated into existing academic course offerings also.
Fire	Operational response to and recovery from chemical, biological and radiation.	Yes	On-the-job

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Law	Same	Yes	Same
Safety Specialists	On-the-job training	Yes	On-the-job
Toxicologists	Unknown	Unknown	Unknown
Emergency Medical Service (EMTs, Paramedics and Ambulance)	Radiation, what are the effects.	No	Army course, not available for civilians
Coast Guard	Same	Yes	Army course
Transportation and shipping	Unknown	Unknown	Unknown
Planners	Unknown	Unknown	Unknown
Radiation experts	Operational response and recovery from radiation events	No	Army course, not available for civilians
Biological experts	Unknown	Unknown	More training should be integrated into existing foundation academic programs

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Nurses	Broader background in the recognition, evaluation and control associated with events. Triage for victims exposed to weapons of mass destruction.	Yes/No	Training and education is available but is not presently available for civilians to obtain. A great deal of the training that needs to be provided to civilians to teach them how to deal with these events from an operational standpoint has been developed and utilized by the U.S. Army for years. Fire departments may be able to provide some of the training relating to personal protective equipment and decontamination. More homeland security related training should be integrated into existing academic course offerings also. May be available in some specialized programs but these are few and far between. Could probably benefit from some basic industrial hygiene training and biological impacts needs development.

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Emergency Medicine Doctors	Broader background in the recognition, evaluation and control associated with events. Triage for victims exposed to weapons of mass destruction.	Yes/No	Training and education is available but is not presently available for civilians to obtain. A great deal of the training that needs to be provided to civilians to teach them how to deal with these events from an operational standpoint has been developed and utilized by the U.S. Army for years. Fire departments may be able to provide some of the training relating to personal protective equipment and decontamination. More homeland security related training should be integrated into existing academic course offerings also. May be available in some specialized programs but these are few and far between. Could probably benefit from some basic industrial hygiene training and biological impacts needs development.

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Epidemiologists	Unknown	Unknown	Unknown
Public Health Service	Unknown	Unknown	Unknown
Industrial Hygiene	Unknown	Unknown	Unknown
Modelers	Unknown	Unknown	Unknown
Meteorology	Unknown	Unknown	Unknown

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

This would be a good thing, particularly for those involved with the planning and policy side of homeland security. Public health professionals would benefit from a broader background.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

N/A

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. We face real threats!

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

Biological agent in the water supply or sprayed or a chemical plume coming downwind.

Public Health and Homeland Security
Date: 8/17/2005
Control Number: 11MD16MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Regional Hospital Coordinators	Yes/No	Some have larger areas and more responsibility and may need support
Local Epidemiologist	No	Have good quality in their region, others may not be in same position throughout country
State Epidemiologist	No	Same
Training and Education (Nurse Trainers)	Yes	This group also needs to do more training in the community
Physicians (Health Department)	Yes	
Nurses (Health Department)	Yes	
Physician Educators	Yes	Woefully inadequate. Definitely needed as physicians are unlikely to attend training delivered by people who are not physicians.
Administrators (Private/Health Dept)	No	
Chief Medical Officer	No	Crucial position
Public Information Officer	No	
Emergency Response Coordinators	No	
Physicians (private)	No	
Nurses (private)	Yes	
Hospital Administration	No	Not concerned with homeland security. Interested in the bottom line. View homeland security as high consequence/low probability event.
Volunteers	No	
Emergency Medical Service	No	
Fire	No	

Public Health and Homeland Security
Date: 8/17/2005
Control Number: 11MD16MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Regional Hospital Coordinators	Degree in education, sociology, not sure.	No
Local Epidemiologist	BS plus with epidemiology concentration/on-the-job training	No
State Epidemiologist	Same	No
Training and Education (Nurse Trainers)	Nursing/Education	No
Physicians (Health Department)	Medical degree	No
Nurses (Health Department)	Nursing degree, 2-year and above	No
Physician Educators	Medical degree	No
Administrators (Private and Health Department)	4-year degree	No
Chief Medical Officer	Medical degree	No
Public Information Officer	Communications degree/4-year degree	No
Emergency Response Coordinators	Not sure	No
Physicians (private)	Medical degree	No
Nurses (private)	Nursing degree, 2-year and above	No
Hospital Administration	4-year degree	No
Volunteers	Varied backgrounds	No
Emergency Medical Service	Specialized training	No
Fire	Specialized training	No

Public Health and Homeland Security
Date: 8/17/2005
Control Number: 11MD16MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Regional Hospital Coordinators	Not sure	Unknown	N/A
Local Epidemiologist	Awareness, threats and properties of chemical, biological and radiological agents/devices, decontamination, how to interact with first responders	Yes	Numerous
State Epidemiologist	Same	Yes	Numerous
Training and Education (Nurse Trainers)	Same	Yes	Numerous
Physicians (Health Department)	Same	Yes	Numerous
Nurses (Health Department)	Same	Yes	Numerous
Physician Educators	Same	Yes	Numerous
Administrators (Private and Health Department)	Same	Yes	Numerous
Chief Medical Officer	Same	Yes	Numerous
Public Information Officer	Same	Yes	Numerous
Emergency Response Coordinators	Same	Yes	Numerous
Physicians (private)	Same	Yes	Numerous
Nurses (private)	Same	Yes	Numerous
Hospital Administration	Same	Yes	Numerous
Volunteers	Same	Yes	Numerous
Emergency Medical Service	Same	Yes	Numerous

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Fire	Same	Yes	Numerous

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

This program would have to be very broad. Maybe it could be done and would be useful.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

N/A

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. Think we are spending too much on bioterrorism. More money should be spent on educating the homeland folks/communities.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

N/A

Question 8. What are your greatest fears relating to public health and a terrorist event?

The inability of public health/healthcare and other involved entities to interact with and obtain respect from the first responder community. This is a critical issue.

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 99GV18FG

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Epidemiologists	Yes	Before 2001 there was a mass shortage
Nurses	Yes	Shortages are getting larger
Physicians	?	
Veterinarians	Yes	Very few of these folks in public health. They can be critical link for many biological concerns
Mental Health	?	
Occupational Health	Yes	These people could add to the surge capacity
School Nurses	No	
Laboratorians (especially BSL-3/4)	Yes	
Mortuaries/Body removal	No	
Academia	Yes	
Logistics/Supplies	No	Most of this is accomplished via the private sector. Public health has a poor history of connecting this aspect with their planning.
Pharmacists	Yes	
Information/Medical Technology	No	
Blood Bank personnel	No	Necessary for Food Security, probably know the least about terrorism, low pay and high turnover rate
Hospital Administration	No	

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 99GV18FG

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Epidemiologists	*If personnel studied at CDC the majority of these people are well qualified.	No
Nurses	*	No
Physicians	Same	No
Veterinarians	Same	No
Mental Health	Same	No
Occupational Health	Same	No
School Nurses	Same	No
Laboratorians (especially BSL-3/4)	Same	No
Mortuaries/Body removal	Same	No
Academia	Same	No
Logistics/Supplies	Same	No
Pharmacists	Same	No
Information/Medical Technology	Same	No
Blood Bank personnel	Same	No
Hospital Administration	Same	No

*Standardized competencies need to be developed for all public health professions as they relate to homeland security.

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 99GV18FG

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Epidemiologists	*See comment below	Yes/No	Different types of training may be available. Most significant issue is there is no clearinghouse for peer reviewed training that meets with the approval of DHHS.
Nurses	Same	Yes/No	Same
Physicians	Same	Yes/No	Same
Veterinarians	Same	Yes/No	Same
Mental Health	Same	Yes/No	Same
Occupational Health	Same	Yes/No	Same
School Nurses	Same	Yes/No	Same
Laboratorians (especially BSL-3/4)	Same	Yes/No	Same
Mortuaries/Body removal	Same and greater emphasis than others on chain-of-custody	Yes/No	Same
Academia	Same	Yes/No	Same
Logistics/Supplies	Same	Yes/No	Same
Pharmacists	Same	Yes/No	Same
Information/Medical Technology	Same	Yes/No	Same
Blood Bank personnel	Same	Yes/No	Same
Hospital Administration	Same	Yes/No	Same

Question 3. (continued)

*General Need for all of public health: All disciplines need to understand working within the law enforcement structure. Other topics considered significant are: personal protective equipment, quarantine laws (unknown to all), who, when and where to contact and the appropriate chain of command within the health departments, Emergency Support Function 8 of the national Response Plan, NIMS, ICS, mass casualty training, chain-of-custody, critical infrastructure protection, vulnerability assessments and evacuation training. More emphasis needs to be placed on academia integrating much of this training into future instruction as part of foundation courses required for these disciplines. Also, must work to team with professional associations such as the American Medical Association and the American Nurses Credentialing Center.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

This would be a good thing. Definitely needs guidance to insure appropriate content is provided.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. We need to be concerned about those events/actions by terrorists that could result in mass casualties. Some things are more dangerous than others and we need to prepare for those events. Homeland Security has had a positive effect on the public health community as a whole.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 99GV18FG

Question 8. What are your greatest fears relating to public health and a terrorist event?

Bioterrorism agents that would be infectious spreading from people to people.

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 10PH19LO

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Emergency Response Coordinator	Yes	Some areas are in much better shape than others. Rural areas may not be in as good a position.
Hospital Coordinators	Yes	Same
Epidemiologist	Yes	Same
Environmental Epidemiologist	Yes	Same
Physicians	Yes	Same
Nurses	Yes	Same
Volunteers	Yes	Same
Emergency Preparedness	No	Same
Law Enforcement	Yes	Not enough to handle surge issues
Administration (Hospitals and Clinics)	No	Same
Medical Directors	No	Same
Volunteer Coordinators	No	Same
Hospital Emergency Preparedness Coordinators	Yes	Position for the most part is non-existent within hospitals. Greatly needed.

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 10PH19LO

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Emergency Response Coordinator	Nursing/Other health related degree	No
Hospital Coordinators	4-year degree	No
Epidemiologist	4-year health related degree or specialization	No
Environmental Epidemiologist	4-year health related degree or specialization	No
Physicians	Medical degree	No
Nurses	2-year nursing degree and above	No
Volunteers	Varied educational background and experience	No
Emergency Preparedness	Varied 4-year degrees	No
Law Enforcement	Specialized training and 4-year degrees	No
Administration (Hospitals and Clinics)	Varied 4-year and above degrees	No
Medical Directors	Medical degree	No
Volunteer Coordinators	Varied 4-year degrees and above	No
Hospital Emergency Preparedness Coordinators	Would most likely prefer a medical background of some sort	No

Public Health and Homeland Security
Date: 8/22/2005
Control Number: 10PH19LO

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Emergency Response Coordinator	NIMS, ICS,HICS, emergency management, FEMA, TEMA and CDC training offerings	Yes/No	*TEMA,CDC,FEMA, academia and others in the private sector
Hospital Coordinators	Same	Yes/No	Same
Epidemiologist	Same	Yes/No	Same
Environmental Epidemiologist	Same	Yes/No	Same
Physicians	Same	Yes/No	Same
Nurses	Same	Yes/No	Same
Volunteers	Same	Yes/No	Same
Emergency Preparedness	Same	Yes/No	Same
Law Enforcement	Same	Yes/No	Same
Administration (Hospitals and Clinics)	Same	Yes/No	Same
Medical Directors	Same	Yes/No	Same
Volunteer Coordinators	Same	Yes/No	Same
Hospital Emergency Preparedness Coordinators	Same	Yes/No	Same

*General Need for all of public health: There are many online offerings and continuing education options available provided by academia and the private sector. These opportunities, for the most part, are to be taken by people after they have arrived at the job. This is not the right way to do this type of education. More emphasis needs to be placed on integrating this type of education into existing academic programs that develop these public health specialists.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Wonderful. Most people in Emergency Preparedness and Administration have a Masters degree or an MPH. This would provide an advanced degree related to homeland security that is needed for the public health community.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. It has been helpful. This has helped bring to the table the issues associated with public health that needs attention. Has increased awareness of biological and other issues. There has been a move to integrate more with other agencies and believe this has actually helped with the reporting of diseases to the health department.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Biggest concern is that we will have an event and we won't be ready. Implementation of many of the plans will be difficult because of previous poor participation or the involvement of the wrong people in the initial planning efforts.

Public Health and Homeland Security
Date: 8/25/2005
Control Number: 10RN20LO

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Physicians	Yes	Many of the more experienced physicians they have with a homeland security knowledge base are presently on active duty. Would be concerned about staffing 24/7 in the event of an incident.
Infectious Disease MDs	No	
Trauma Surgeons	Yes	
Nuclear Medicine	No	
Nursing	Yes	Concerned about surge capacity issues even with contribution from outlying areas
Non-college educated hospital support staff, maintenance, housekeeping, etc	No	
Emergency Medical Service	No	
Fire/Hazmat	No	
Regional Hospital Coordinator	No	

Public Health and Homeland Security
Date: 8/25/2005
Control Number: 10RN20LO

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Physicians	Medical School	No
Infectious Disease MDs	Same	Yes
Trauma Surgeons	Same	Yes
Nuclear Medicine	Same	Yes
Nursing	2-year nursing degree and above, most BSN and Masters level	No
Non-college educated hospital support staff, maintenance, housekeeping, etc	GED and some technical/vocational training	No
Emergency Medical Service	Specialized training	Yes
Fire/Hazmat	Specialized training	Yes
Regional Hospital Coordinator	Nursing or other 4-year degrees and above, a great deal of on-the-job training	*No

*Basic degree would not be sufficient for position. Those who are self motivated have been able to get adequate on-the-job training and function extremely well.

Public Health and Homeland Security
Date: 8/25/2005
Control Number: 10RN20LO

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Physicians	Homeland security awareness and training of required competencies should be integrated into existing academic curriculum	No	Medical Schools
Infectious Disease MDs	Same	No	Same
Trauma Surgeons	Same	No	Same
Nuclear Medicine	Same	No	Same
Nursing	Same	No	Same
Non-college educated hospital support staff, maintenance, housekeeping, etc	Simpler presentations should be developed for these staff and should be taught by credible homeland security personnel in small groups	No	Same
Emergency Medical Service	In service classes that would be 4-hours or less and modular in form	No	Same
Fire/Hazmat	In service classes that would be 4-hours or less and modular in form	No	Same
Regional Hospital Coordinator	None, position is too varied	No	Same

Question 3. (continued)

General Need for all of public health: Believes training for all public health should be physician driven. There are no opportunities in the local area to take training. Cost prohibitive for hospitals to send people to training. Training material should be developed by federal/state/local public health entities and provided to hospitals and others in the private sector free of charge. Educational delivery must support distance/online learning/on facility learning. Credentialing bodies for physicians, nursing, epidemiologists and others should peer review and support. There is no standardization and no clearinghouse of approved DHHS homeland security related training. Responsibility for training public health should rest solely with DHHS and not DHS.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Wonderful. Definitely needed. Would be great to build future cadre of leaders in field.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

No. Don't really see any differences in the way issues are handled.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Continuity of care and communication due to poor integration of supporting groups.

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 05PH21MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Executive Management	Yes	
Physicians	Yes	
Nurses	Yes	Pay is a significant issue. Many nurses do not work for S/L because jobs are plentiful in the private sector and they can make 2-2.5 times more money.
Epidemiologists	No	Spending a great deal of time and effort on surveillance with limited emphasis on preparedness
Planning	Yes	Only 1 senior bioterrorism planner for the state.
Emergency Response Coordinators	Yes	
Regional Hospital Coordinators	Yes	
Designated Emergency Planner	Yes/No	Larger metropolitan areas may have these types of personnel imbedded in their hospitals. Unfortunately, rural areas don't and can't afford this.
Emergency Medical Service	Yes/No	Larger metropolitan areas are in good shape. Rural areas are lacking in personnel and equipment. Many have radios that don't work properly in the rural areas.

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 05PH21MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Executive Management	Medical School	Yes
Physicians	Same	No
Nurses	2-yr up to Masters (No emergency management/emergency preparedness education in school)	No
Epidemiologists	Unknown	No
Planning	Varied degrees and backgrounds ranging from EMTs to 4-year and above degrees. Most come with emergency preparedness background. Education not as important as what they have amassed on the job from other agencies such as TEMA and FEMA	No
Emergency Response Coordinators	Same	No
Regional Hospital Coordinators	Mixture of EMTs, Nursing, etc. Many are learning as they go in this job. Actual job responsibilities are continuing to be refined.	No
Designated Emergency Planner	Unknown	No
Emergency Medical Service	Specialized training	No

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 05PH21MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Executive Management	*See comment below	No	Should integrate into degree programs like nursing, medical school, etc.
Physicians	Same	No	Same
Nurses	Same	No	Same
Epidemiologists	Same	No	Same
Planning	Same	No	Same
Emergency Response Coordinators	Same	No	Same
Regional Hospital Coordinators	Same	No	Same
Designated Emergency Planner	Same	No	Same
Emergency Medical Service	Same	No	Same

General Need for all of public health: The public health infrastructure dropped to a skeleton crew prior to the emphasis on homeland security. Public health had never been viewed as a first responder prior to September 11th. Much has been done to identify core competencies but the education required to meet those competencies has not been defined. There are no affordable choices for education for public health and the present design is flawed. Ongoing and continuing education requires that people be self-motivated. There are bits and pieces of education strewn throughout with all sorts of misinformation and this should be coordinated. There is no standardization. An education department that would be responsible for all these aspects of education and homeland security for public health needs to be developed. Additionally, more emphasis must be placed on foundation degree programs to include emergency preparedness/homeland security in their curriculums.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Love it! Necessary! Don't have anything like that with the exception of programs just starting like the University of Tennessee's nursing program.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Speak directly with the Governor's Office of Homeland Security. Public health is involved in weekly meetings, participate in drills and exercises and have direct access to the Office of Homeland Security.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. It is helping in a positive way to help rebuild public health infrastructure.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

We won't be prepared. Don't believe we are prepared to handle huge illnesses and death.

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 06MD22LO

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Physicians	Yes	Can't keep enough physicians in this area
Public Health Department Head	No	
EMS	No	Transportation of non-emergency patients limits ability to respond
Police	No	
Red Cross	No	
Hospital Administrators	No	
Emergency Room Directors	No	
Emergency Room Physicians	Yes	
Volunteers	Yes	
Nursing	Yes	
Epidemiologists	No	
Public Health Department and associated staff	Yes	
Churches and associated volunteers	No	
Medical complexes and associated hospital staff	Yes	

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 06MD22LO

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Physicians	Medical School	NO
Public Health Department Head	Varied degrees	NO
EMS	Specialized training	NO
Police	Specialized training	NO
Red Cross	Varied degrees and specialized training dependent upon function	NO
Hospital Administrators	Varied Degrees	NO
Emergency Room Directors	Medical School	NO
Emergency Room Physicians	Medical School	NO
Nursing	2-year degrees and above	NO
Epidemiologists	Specialized and varied degrees	NO
Public Health Department and associated staff	Varied degrees and specialized training for technical staff	NO
Churches and associated volunteers	Varying backgrounds, some with and without degrees	NO
Medical complexes and associated hospital staff	Varying backgrounds, some with and without degrees	NO
Volunteers	Varying backgrounds, some with and without degrees	NO

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 06MD22LO

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	**Additional education suggested**	**Is education presently available? Yes/No**	**From whom?**
Physicians	*See comment below	No	*See comment below
Public Health Department Head	Same	No	Same
EMS	Same	No	Same
Police	Same	No	Same
Red Cross	Same	No	Same
Hospital Administrators	Same	No	Same
Emergency Room Directors	Same	No	Same
Emergency Room Physicians	Same	No	Same
Volunteers	Same	No	Same
Nursing	Same	No	Same
Epidemiologists	Same	No	Same
Public Health Department and associated staff	Same	No	Same
Churches and associated volunteers	Same	No	Same
Medical complexes and associated hospital staff	Same	No	Same

*General Need for all of public health: No standardized training. Training needs to be developed that is specific agent oriented and oriented specifically to the needs of each specialization that may provide support. Need more volunteer training, awareness, and operationally oriented training identifying reporting mechanisms and roles and responsibilities as well as crisis management training. Training should be developed at physician level and down. Need to collaborate with bodies like the AMA so those attending may receive continuing education credits.

Public Health and Homeland Security
Date: 8/30/2005
Control Number: 06MD22LO

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Good! Emergency Room Doctors best to attack on this.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Hard enough to keep up with normal public health issues, especially with the influx of migrant workers in this region. Hard to justify significant emphasis for high consequence-low probability events when there are children every day in the health department that need care.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Poorly prepared to meet demands. Know that people hurt and we can't get to them.

Public Health and Homeland Security
Date: 8/19/2005
Control Number: 11PH17MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
School Nurses	No	
Veterinarians	No	
Epidemiologist	No	
Environmental Epidemiologist	No	Should provide better link with fire/hazmat for chemical events
Medical Examiner	No	
Laboratories	No	
Pollution Control	No	This aspect of public health needs to be more involved for things like sensor deployment
Air Monitoring	No	
Emergency Response Coordinators	No	
Emergency Management Agency	No	
Fire	No	
Physicians	No	
Emergency Medical Service	No	
Sanitarians	Yes	Necessary for Food Security, probably know the least about terrorism, low pay and high turnover rate
Regional Hospital Coordinators	No	
Volunteer Coordinators	No	
Network Specialists	No	
Nurse Clinicians	No	
Supervisors/Administrators	No	
Education and Training	No	Primarily nurses
Public Information Officers	No	
Physicians (Private)	No	
Clerical	No	
Mental Health	No	
Public Health Nurses	Yes	
Law Enforcement	No	

Public Health and Homeland Security
Date: 8/19/2005
Control Number: 11PH17MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
School Nurses	Nursing	No
Veterinarians	Vet School	No
Epidemiologist	Epidemiology, Public Health	No
Environmental Epidemiologist	Epidemiology, Public Health	No
Medical Examiner	Medical School	No
Laboratories	Biology/Chemistry/varied 4-year degrees	No
Pollution Control	Environmental	No
Air Monitoring	Environmental	No
Emergency Response Coordinators	Environmental Health/Emergency Management	No
Emergency Management Agency		No
Fire	Specialized training, 4-year degrees and above	No
Physicians	Medical School	No
Emergency Medical Service	Specialized training	No
Sanitarians	2-year degree and above as well as specialized training	No
Regional Hospital Coordinators	Varied 4-year degrees	No
Volunteer Coordinators	Varied 4-year degrees	No
Network Specialists	Computer Science	No
Nurse Clinicians	Nursing	No
Supervisors/Administrators	4-year degree	No
Education and Training	Varied 4-year degrees, normally nursing	No
Public Information Officers	Communications	No
Physicians (Private)	Medical School	No

Question 2. (continued)

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Clerical	Technical training	No
Mental Health	Psychology, Sociology, Social Work, Medical School	No
Public Health Nurses	Nursing	No
Law Enforcement	Criminology and specialized training	No

Public Health and Homeland Security
Date: 8/19/2005
Control Number: 11PH17MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
School Nurses	*See comment below	No	Different types of training may be available but not appropriate for what is really needed. No standardization of training.
Veterinarians	Same	No	Same
Epidemiologist	Same	No	Same
Environmental Epidemiologist	Same	No	Same
Medical Examiner	Same	No	Same
Laboratories	Same	No	Same
Pollution Control	Same	No	Same
Air Monitoring	Same	No	Same
Emergency Response Coordinators	Same	No	Same
Emergency Management Agency	Same	No	Same
Fire	Same	No	Same
Physicians	Same	No	Same
Emergency Medical Service	Same	No	Same
Sanitarians	Same	No	Same
Regional Hospital Coordinators	Same	No	Same
Volunteer Coordinators	Same	No	Same
Network Specialists	Same	No	Same
Nurse Clinicians	Same	No	Same
Supervisors/Administrators	Same	No	Same

Question 3. (continued)

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Education and Training	Same	No	Same
Public Information Officers	Same	No	Same
Physicians (Private)	Same	No	Same
Clerical	Same	No	Same
Mental Health	Same	No	Same
Public Health Nurses	Same	No	Same
Law Enforcement	Same	No	Same

*General Need for all of public health: All disciplines need to have a basic awareness and understanding regarding how to work with hospitals and other specialties that support public health. There needs to be more of an integration of public health with other supporting groups supporting homeland security. All need to understand mass casualty incidents from the perspective of how we prepare, respond and recover from these types of incidents. More emphasis needs to be placed on instructing these disparate groups how to develop and practice integrated plans. Planning for surge capacity is important also.

Public Health and Homeland Security
Date: 8/019/2005
Control Number: 11PH17MT

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

This would be of great value. Perhaps it would be helpful to bridge the integration of efforts of all those that support homeland security.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Many have doubled up on duties and many employees are strapped. Homeland security has impacted.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

A biological incident. Most concerned about a potential for a food safety incident. Concerned about explosives and what plans are we going to make regarding the treatment of elected officials since all terrorist events are local.

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 11RN23MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Mental Health	Yes	System has been slowly evolving over years, has been slowly depleted due to lack of funding
Think tanks	Yes	This group could help organizations manage problems different than we have ever done. Could help with initiatives on how to do things differently
Law enforcement	Yes	
Emergency Medical Services	Yes	
Education	Yes	
Physicians	Yes	
Nurses	Yes	
School staff	Yes	
Pharmacists	Yes	
Consumer health care data specialists	Yes	This information would be helpful for identifying those who would be at risk and would help with intervention
Hospital administration	Yes	
OTs, PTs	Yes	
Nutritionists	Yes	
Unknown group (possibly MBA types to help redefine processes)	Yes	This group could help organizations manage problems different than we have ever done. Could help with initiatives on how to do things differently
Traditional Public health department personnel	Yes	
Media	No	

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 11RN23MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	Education required	Adequate to support homeland security mission? Yes/No
Mental Health	Social Work, psychologists, psychiatrists	No
Think tanks	Varied degrees	No
Law enforcement	Specialized training	No
Emergency Medical Services	Specialized training	No
Education	Varied degrees and specialized training dependent upon function	No
Physicians	Medical School	No
Nurses	2-year Nursing degree and above	No
School staff	Varied educational support degrees	No
Pharmacists	Pharmacy School	No
Consumer health care data specialists	Specialized and varied degrees	No
Hospital administration	Varied degrees	No
OTs, PTs		No
Nutritionists	Degrees in nutrition	No
Unknown group (possibly MBA types to help redefine processes)	Varying backgrounds, more successful business oriented people with MBAs, etc	No
Traditional Public Health Department Personnel	Varied degrees in epidemiology, nursing, medical, administration etc	No
Media	Communications/Journalism degree	No

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 11RN23MT

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Mental Health	*See comment below	No	*See comment below
Think tanks	Same	No	Same
Law enforcement	Same	No	Same
Emergency Medical Services	Same	No	Same
Education	Same	No	Same
Physicians	Same	No	Same
Nurses	Same	No	Same
School staff	Same	No	Same
Pharmacists	Same	No	Same
Consumer health care data specialists	Same	No	Same
Hospital administration	Same	No	Same
OTs, PTs	Same	No	Same
Nutritionists	Same	No	Same
Traditional Public Health Department Personnel	Same	No	Same
Media	Same	No	Same
Unknown group (possibly MBA types to help redefine processes)	Same	No	Same

*General Need for all of public health: No standardized training. Professional associations and specialization accrediting bodies need to help develop recommendations. Move should be made to integrate into existing specializations and a generalist's specialization should be developed as a stand alone academic focus. Federal guidance should be developed and delivered upon input from professional associations/think tanks developed. No integration among players and much education and training needs to be

Question 3. (continued)

done to connect the dots. There is not enough awareness, appreciation and prevention to make things happen. Many don't know who to call and how to help.

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Support it. One needs to be careful how this is put forward. Definitely need professional vision and thinking. If everything is taught along the means of traditional means of operating we won't be as prepared to move forward.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. Definitely.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

We aren't prepared, look to Katrina as an example.

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 01MD24MT

Question 1. Who are the public health professionals you believe are necessary to support the needs of homeland security (specific specializations) in your region and what types of workforce gaps exist?

Specializations Required	Workforce Gaps (yes/no)	Other Comments
Trauma Surgeons	Yes	This group is not reimbursed well and there is no funding for trauma centers. This is a major problem!
Emergency Physicians	Yes	
Public Health Department Personnel	Maybe	
Infectious Control Personnel	Maybe	
Radiation Specialists	Maybe	
Critical Care Specialists	Maybe	
Radiation Safety Officers	Yes	
Emergency Nursing	Yes	There is a large turnover, especially for higher level nurses

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 01MD24MT

Question 2. What type of education is presently required for each of these specializations and is it adequate to support the homeland security mission?

Specialization	**Education required**	**Adequate to support homeland security mission? Yes/No**
Trauma Surgeons	Medical School, 5 years general surgery, 1 year trauma fellowship	NO
Emergency Physicians	Medical School, 4 year fellowship	NO
Public Health Department Personnel	Varies	NO
Infectious Control Personnel	Nothing special, medical school, 3 year residency and 1-2 year fellowship. Most education is self motivated	NO
Radiation Specialists	Medical School	NO
Critical Care Specialists	Medical School, 3 years residency, 1 year fellowship	NO
Radiation Safety Officers	Maintenance, security and engineering backgrounds	NO
Emergency Nursing	RN, 4 year (most asked to take extra courses)	NO

Question 3. What type of additional education would be useful for each of these specializations and is it presently available? If so, are there accredited continuing education or academic programs you believe would be of value to those with a homeland security role?

Specialization	Additional education suggested	Is education presently available? Yes/No	From whom?
Trauma Surgeons	Lack mass casualty education	Yes	Society for Critical Care Medicine
Emergency Physicians			
Public Health Department Personnel			
Infectious Control Personnel			
Radiation Specialists			
Critical Care Specialists			
Radiation Safety Officers			
Emergency Nursing			

General Need: No standardized training. Most lack mass casualty, hazmat, life support, disaster management, advanced trauma life support and biological/chemical/radiation training integrated into mass casualty training. Much of this training can be obtained from places like the American College of Emergency Physicians, the Tennessee College of Emergency Physicians and the University of Arizona. A great deal of training needs to be delivered to hospitals and their staff. Training should come to trauma centers first and then be delivered to non-trauma centers via outreach representatives from the trauma centers.

Public Health and Homeland Security
Date: 9/12/2005
Control Number: 01MD24MT

Question 4. What is your personal opinion on the value of a homeland security medical/public health fellowship/graduate MPH?

Seems to be limiting. There are so many other ways to use talents that it seems that it would be a waste of dollars. Would be more effective to integrate into curriculums and make the profession more attractive.

Question 5. How do you receive homeland security information pertinent to your region/operations and to who do to receive direction and speak with regarding questionable reports and critical information?

Did not ask.

Question 6. Is homeland security preparedness impacting public health's ability to conduct their primary goals relating to health and welfare of population?

Yes. Absolutely. This is high profile.

Question 7. What are the preparedness performance objectives that have been developed for public health and your organization's contribution to homeland security?

Did not ask.

Question 8. What are your greatest fears relating to public health and a terrorist event?

Can't communicate. Infrastructure failure similar to Hurricane Katrina. Chaos created by failure. Can't get home to families.

THIS PAGE INTENTIONALLY LEFT BLANK

BIBLIOGRAPHY

Aguirre, B.E., Wenger, D., and Vigo, G. "A test of the emergent norm theory of collective behavior." *Sociology Forum* 13 (1998): 301-320.

Associated Press. "Rural Hospitals Face Doctor Shortages." *The Washington Post*, 27 December 2005.

Boulton, M.L., Malouin, R.A., Hodge, K., and Robinson, L. "Assessment of the Epidemiological Capacity in State and Territorial Health Departments---United States, 2001." *Morbidity and Mortality Weekly Report* 52, no. 43 (October 31, 2003): 1049.

"Bush seeks major boost for Public Health Service, Expanded corps of caregivers eyed for crisis." *Washington Globe*. February 12, 2004.

Canada, Ben. *Terrorism Preparedness: Catalog of Selected Federal Assistance Programs*. (Washington, D.C.: Congressional Research Service, The Library of Congress, RL 31227, 2003).

Centers for Disease Control and Prevention. "About CDC." (2004). Cited 20 December 2004, available from http://www.cdc.gov/aboutcdc.htm.

Centers for Disease Control and Prevention. "Health Alert Network." (Health Alert Network, 2005). Cited 27 December 2005, available from http://www.phppo.cdc.gov/han/HANFactSheet-1.ppt.

Centers for Disease Control and Prevention. *Public Health Infrastructure - A Status Report.* (Atlanta, Georgia: 2001).

Chattanooga Times Free Press. “Hospital officials say they're unprepared to respond to a chemical or biological attack because the state has been so slow in distributing millions of dollars in federal homeland security money.” February 16, 2004.

Clarke, L. *Mission improbable: using fantasy documents to tame disaster*. (Chicago: University of Chicago Press, 1999).

Colmers, John M. and Fox, Daniel M. "The Politics of Emergency Health Powers and the Isolation of Public Health." *American Journal of Public Health* 93, no. 3 (March 2003): 399.

Davis, Lois M. and Blanchard, Janice C. *Are Local Health Responders Ready for Biological and Chemical Terrorism?* (Arlington, VA: RAND), 1-7, RAND, IP-221-OSD.

Department of Health and Human Services. “A National Public Health Strategy for Terrorism Preparedness and Response 2003-2008.” (Washington, D.C.: Centers for Disease Control and Prevention, Agency for Toxic Substances Disease Registry). Version March 2004.

Department of Homeland Security. *National Response Plan.* (Washington, D.C.: Department of Homeland Security).

The Future of the Public's Health in the 21st Century. (Washington, D.C.: Institute of Medicine, 2003).

Glass, Thomas A., and Schoch-Spana, Monica. "Bioterrorism and the People: How to Vaccinate a City against Panic." *Confronting Biological Weapons* 34 (15 January 2002).

Gursky, Elin. *Progress and Peril Bioterrorism Preparedness Dollars and Public Health.* (New York, New York: The Century Foundation, 2003), 32.

Health Science Policy Program Committee on R&D Needs for Improving Civilian Medical Response to Chemical and Biological Terrorism Incidents, Institute of Medicine and Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research Council. *Chemical and Biological Terrorism.* (Washington, D.C.: National Academy Press, 1999), 30.

Hearne, Shelley A. and Segal, Laura M. "Leveraging The Nation's Anti-Bioterrorism Investments: Foundation Efforts To Ensure A Revitalized Public Health System." *Health Affairs* 22, no. 4 (July/August 2003): 231.

Kenny, Holly, and Oliver, Leah. "Children's Mental Health and Terrorism." *National Conference of State Legislatures*, 2002. http://www.ncsl.org/programs/press/2002/issues/mentalhealth.htm [Accessed 15 January 2006].

Long, Paul A., and Fisher, John C.K. "Twenty years later, anguish still burns." *The Cincinnati Post*, 24 May 1997.

Marmagas, Susan West, King, Laura Rasar, and Chuk, Michelle G. "Public Health's Response to a Changed World: September 11, Biological Terrorism, and the Development of an Environmental Health Tracking Network." *American Journal of Public Health* 93, no. 8 (August 2003): 1229.

National Advisory Committee On Children and Terrorism. *National Advisory Committee on Children and Terrorism Report to the Secretary*. (Washington, D.C.: National Advisory Committee on Children and Terrorism), June 12, 2003, 1.

National Child Traumatic Stress Network. "Chemical Terrorism," Cited 15 May 2005, available from http://nctsnet.org/nccts/nav.do?pid=ctr_terr_chem_descanddisasterType=chem.

National Mental Health Association. "Mental Health Not A Priority in America, NMHA Says." About.com, 2006. Cited 15 January 2006, available from http://panicdisorder.about.com/b/a/024821.htm.

Noji, Erik K., MD, MPH. "Creating a Health Care Agenda for the Department of Homeland Security." *Supplement to Managed Care* 12, no. 11 (November 2003): 10.

ODP WMD Training Program, Enhancing State and Local Capabilities to Respond to Acts of Terrorism. (Washington, D.C.: Department of Homeland Security), 2004.

Pangi, Robyn. "After the Attack: The Psychological Effects of Terrorism." *Perspectives on Preparedness* No. 7 (August): 1.

Raiford, Dave. "Vandy, Lipscomb in discussions on joint nursing degree." *Nashville Business Journal*, December 27, 2002.

Raphael, Dennis, PhD, C. Psych. "Public Health Responses to Health Inequalities." *Canadian Journal of Public Health* 89 (Nov/Dec 1998): 380-381.

Shipp, G., Dickson, J., Quinlisk, P., and Lohff, C. "Terrorism Preparedness in State Health Departments---United States, 2001—2003." *Morbidity and Mortality Weekly* 52, no. 43 (October 31, 2003): 1051.

Smith, M.D., R.P., et al., "Mental Health Status of World Trade Center Rescue and Recovery Workers and Volunteers --- New York city, July 2002 -- August 2004." *Morbidity and Mortality Weekly* 53 (35): 812, 10 September 2004. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a2.htm [Accessed 29 May 2005].

Staiti, Andrea B., Katz, Aaron, and Hoadley, John F. "Has Bioterrorism Preparedness Improved Public Health?" *Center for Studying Health System Change* 65 (July 2003): 3.

State of Tennessee. "TN/HSEP (Tennessee Homeland Security Exercise Program)." 2005, cited 5 January 2006, available from www.tennesseeexercise.com. ..map_districts.gif.

State Public Health Employee Workforce Shortage Report: A Civil Service Recruitment and Retention Crisis. (Washington, D.C.: Association of State and Territorial Health Officials), ASTHO, 2004.

Steury, M.D., Steve, and Parks, M.D., Joseph. “State Mental Health Authorities' Response to Terrorism.” (Technical paper, Alexandria, Virginia: National Association of State Mental Health Program Directors, NASMHPD Medical Directors Council, 2003), 3.

Target Capabilities List: Version 1.0. (Washington, D.C.: U.S. Department of Homeland Security, January 31, 2005).

Trust for America's Health. “Ready or Not? Protecting the Public's Health in the Age of Bioterrorism.” (Washington, D.C.: Trust for America's Health, December 2003).

Turnock, Bernard J. *Public Health Preparedness at a Price: Illinois*. (New York, New York: The Century Foundation, 2004).

United States Army, Ground Intelligence Center. 2005. Cited 25 February 2005, available from http://avenue.org/ngic/about_prisp.htm.

The University of Tennessee. "Fellowships - Homeland Security Studies." Department of Family Medicine, 2005. Cited 20 December 2005, available from http://gsm.utmck.edu/family_medicine/hss.htm.

The University of Tennessee. "UT's Homeland Security Nursing Degree First In Nation." Tennessee Today, 2005. Cited 12 December 2005, available from http://pr.tennessee.edu/news/release.asp?id=2206.

Who Will Keep the Public Healthy? Educating Public Health Professionals for the Twenty-first Century. (Washington, D.C.: Institute of Medicine).

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvoir, VA

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, CA

3. Mr. Dave Mitchell
   Director, Tennessee Office of Homeland Security
   Nashville, TN

4. Major General (Retired) Jerry Humble
   Russellville, KY

5. Dr. Frank Akers
   Oak Ridge National Laboratory
   Associate Lab Director, National Security Directorate
   Oak Ridge, TN

6. Mr. John Doesburg
   Director, University of Tennessee/Oak Ridge National Laboratory Center for Homeland Security and Counterproliferation
   Knoxville, TN

7. Dr. Fabian Mihelic, MD
   Director, University of Tennessee Center for Homeland Security Studies
   Knoxville, TN

8. Dr. Robin White
   Knoxville, TN

9. Dr. Anke Richter
   Naval Postgraduate School
   Monterey, CA